San Pedro Creek Culture Park



INTERPRETIVE PLAN



Completed (Phase 1.1)



CIERCE CONTRACTOR

Manistrin

In design (Phase 1.3)

In construction (Phase 1.2)





"As the place where San Antonio was born, the story of the creek and the city are forever intertwined."

—John Philip Santos

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for interpretive panels and bridge panels **Attachments 3–12:** Interpretive panels developed and installed in Phase 1.1



Snowy Egret attracted to Phase 1.1 amenities of the San Pedro Creek Culture Park (by Toxey/McMillan Design Associates)

INTRODUCTION TO THE PROJECT

San Pedro Creek issues from the Edwards Aquifer at San Pedro Springs. This waterway travels south approximately five-miles to join the San Antonio River. Draining over 45 fertile acres, the tributary supports a diverse ecosystem, including over 12,000 years of human settlement. The richness of the soil results in part from the natural cycle of floods during the region's wet seasons. Before the introduction of flood-control interventions, the flooding creek caused loss of life and considerable property damage. Multiple phases of creek channelization eventually turned the the formerly tree-lined natural banks and pastoral stream into a concrete-lined (and even culverted) storm drain. Although Bexar County and the City of San Antonio were established along the creek, by the middle of the 20th century, both entities had turned their backs to this watery birthplace, reduced to a drain.



Footprint of the San Pedro Creek Culture Park and surrounding areas benefiting from its flood control improvements (by San Antonio River Authority)

Contemporaneous with the West Side Creek Project study, which included San Pedro Creek, in 2012–2013 Bexar County funded a \$700,000 Preliminary Engineering Report (PER) to analyze San Pedro Creek's ability to withstand 100-year flood conditions. The plan also included a design solution for the creek's inadequacy to hold 100-year floodwaters within its banks and a concept for reconnecting the creek to the surrounding urban context and for reestablishing its natural environment. This was done by reimagining the storm drain as a linear urban park with natural habitats for native flora and fauna, play spaces for people living here and visiting, and economic revitalization opportunities.



Phase 1.1 of the San Pedro Creek Culture Park under construction (by San Antonio River Authority)

The San Pedro Creek Culture Park is the realization of this initial study. The project results from a unique collaboration of three public partners— Bexar County (as funder and project initiator), the San Antonio River Authority, and the City of San Antonio—with input from the San Pedro Creek Citizen Advisory Committee representing more than a dozen local community entities. Together, they fine-tuned visionary goals and overcame obstacles. While the main purpose of the project is to provide the next and much-improved generation of flood control, the park project simultaneously serves as a public and natural amenity. Encompassing over two miles of the creek's nearly 4-mile above-ground length, it transforms the 20th-century concrete-lined drain into a beautiful park through feats of engineering, lush landscaping with native plants, wildlife habitat development, copious public art, rich historical resources, and recreational opportunities. In addition to protecting the safety and integrity of the community and showcasing natural, historical, and cultural assets, the economic revitalization that it is sparking has wideranging benefits for San Antonio and Bexar County.



Phase 1.1 of the San Pedro Creek Culture Park under construction (by San Antonio River Authority)

INTERPRETIVE SIGNIFICANCE

As the birthplace of San Antonio de Béxar in 1718, San Pedro Creek courses through the veins of Bexar County and the city of San Antonio, though its story goes back much farther than the Spanish colonization of Texas. It has supported human life in this region for at least 12,000 years and has supported floral and faunal life for much longer.

San Pedro Creek runs parallel to the San Antonio River for five miles before the two join forces. This double asset was exploited by the Spanishled effort to colonize the region through the introduction of agriculture and settled communities. During this period of time (early 18th through early 19th centuries) and extending into the early 20th century, the two watercourses were connected and extended through a sophisticated system of hand-dug channels, called *acequias*, which allowed for irrigation of large areas of land, resulting in urban growth. This growth was concentrated between the two waterways and along their banks. With water being crucial to life, San Pedro Creek has touched or been touched by most aspects of the area's history.

San Pedro Creek's story, which begins thousands of years ago and includes the seminal founding of San Antonio de Béxar, is critical to the overall history of San Antonio and Bexar County. Located on the west side of town, the creek has historical associations with Apache raids, refugee resettlement, poverty, the city-sanctioned red-light district, slaughter houses, and industrial production. As a result, this story has been ignored, just as the creek itself has been marginalized and forgotten.



1866 City Ordinance regarding befouling San Pedro Creek (by City of San Antonio Municipal Archives)

Significant as San Pedro Creek has been to the region's history and urbanization through the late 19th and early 20th centuries, it was channelized, culverted, and ignored over the course of the 20th century by the surrounding urban context. This ignominy and effacement, too, are part of the creek's history—as is its rebirth with the San Pedro Creek Culture Park.

With advice from the San Pedro Creek Culture Park Interpretive Plan Committee, the authors of this plan have focussed the interpretation for Phase 1.2 through Phase 4 of the park's development on the story of the creek as it relates to the urban and cultural history of the region. The interpretation also includes the story of the Culture Park's development through innovative engineering and landscaping solutions, and it includes content on the flora and fauna returning to the creek, thanks to improvements in water quality and habitat development.



City Tract of San Antonio de Béxar, 1852 (by City of San Antonio Municipal Archives)

PROJECT GOALS

The goals of the San Pedro Creek Culture Park are:

- Improved flood control to meet 100-year flood conditions
- Reestablishment of cultural connections
- Improved water quality
- Provision of public art
- Enhancement of natural features and provision of landscaping
- Creation of opportunities for economic revitalization and development



Celebrating the completion of San Pedro Creek Culture Park Phase 1.1 (by San Antonio River Authority)

INTENT OF THE INTERPRETIVE PLAN

The main goal of an Interpretive Plan is to define an interpretive vision for a project. This is essential in providing a satisfying visitor experience. Building upon the interpretive resources developed in Phase 1.1 of the San Pedro Creek Culture Park, this Interpretive Plan intends to: (1) establish an overall, cohesive vision for this multi-pronged project, and (2) guide the development of the park's interpretive features from Phase 1.2 through Phase 4. These features include the San Pedro Creek Public Art program, interpretive panels along the park *paseos* and on the bridges, the San Pedro Creek Culture Park mobile app, the park's website, and potentially other media.

To accomplish this, the plan:

- Defines visitor needs
- Establishes an interpretive theme for the project, based on public input through the San Pedro Creek Culture Park Interpretive Plan Committee
- Identifies relevant stories, based upon the precedent established in Phase 1.1, public input through the San Pedro Creek Culture Park Interpretive Plan Committee, and additional research
- Defines topics for 56 interpretive panels to be developed in phases 1.2 through 4.0 of the project
- Maps approximate locations for these 56 interpretive panels situated between the Houston Street bridge and the Interstate 35 overpass (at the southern end of the park)
- Develops storylines for each of the 56 interpretive panels, providing content for the panels, mobile app, and website.
- **Please note:** Since the Storyline Development is meant to provide content for the interpretive panels and other interpretive features, its discussions of the park's design, construction, and impacts on wildlife and the local economy, for examples, are written in the past tense.
- **Further note:** During the course of this interpretive plan's development, new archaeological findings were made, and more will be made after the plan is completed. The intent of this plan is to provide a *foundational structure and strategy for interpretation* throughout the park, whose realization will take place over a number of years. The content and placement of panels may change with new discoveries, such as these. The plan has built-in flexibility to accommodate such changes. As stated elsewhere, the content and placement of panels outlined in this plan are recommendations only and are based on current knowledge.

METHODOLOGY AND DEVELOPMENT PROCESS

The content of this Interpretive Plan was derived through field research and walking tours of the project, bibliographic research, archival research, meetings with the San Pedro Creek Culture Park Interpretive Plan Committee (a group of informed citizens who represent numerous local cultural organizations), and many interviews of experts in the various fields of study involved.

Meetings with the San Pedro Creek Culture Park Interpretive Plan Committee, facilitated by Toxey/McMillan Design Associates and project leaders at the San Antonio River Authority, were held on the following dates: October 26, 2018, February 27, 2019, April 15, 2019, and February 20, 2020.

In addition, Interpretive Plan meetings were held with representatives of Bexar County and SARA project leaders on April 8, 2019, and with the project's design team on April 23, 2019.

The preliminary list of interpretive topics and locations for interpretive panels was presented to project leaders at SARA, representatives of Bexar County, the San Pedro Creek Culture Park Interpretive Plan Committee, and the project's design team at a series of meetings in April, 2019, for approval, which was granted.

A list of bibliographic sources and interviewees consulted can be found at the end of this document.



Phase map of the San Pedro Creek Culture Park (by San Antonio River Authority)

VISITOR NEEDS

To address a variety of learning types, the proposed interpretation and associated public art installations include graphic, textual, audible, and tactile components.

Since a significant percentage of local residents and tourists (and therefore potential park visitors) are Spanish-speaking only, the San Pedro Creek Culture Park Interpretive Plan Committee recommended that all interpretation for the park, including printed interpretive panels, be developed in Spanish as well as English.

An audience profile was not conducted as part of the Interpretive Plan; however, the project leaders defined the anticipated audience for this public park as being local residents and tourists (including visiting friends and family of local residents) of all ages, nationalities, ethnicities, economic backgrounds, and levels of education.



Visitors to San Pedro Creek Culture Park Phase 1.1 (by Toxey/McMillan Design Associates; photographed with permission)

UNDERLYING THEME

An interpretive project has a central theme, which ties together the information presented. It defines what the content covers and does not cover. It establishes the main idea of the project. This is the take-home message, like the moral of a story.

SAN PEDRO CREEK CULTURE PARK THEME

Crafted with input from the San Pedro Creek Culture Park Interpretive Plan Committee, the theme established for this project is:

The San Pedro Creek Culture Park (SPCCP) tells the story of San Pedro Creek: its indigenous, ecological, social, cultural, economic, and landscape histories, which are densely embedded in the creek and are significant to the interweaving of cultures that continues to define Bexar County.



Wildlife attracted to Phase 1.1 amenities of the San Pedro Creek Culture Park (by Toxey/McMillan Design Associates)

INTERPRETIVE APPROACH

Following the intent defined by the project theme, the interpretive approach selected was to braid together three strands of storylines over the length of the park: (1) culture, (2) ecology, and (3) engineering (both contemporary and historical). This has been accomplished by alternating interpretive content along the creek among these three strands. In this way, natural subject matter, cultural subject matter, and engineering subject matter is addressed throughout the park, as it pertains to specific locations.

This approach is consistent with the three topic-focussed walking tours that were already established in Phase 1.1, which encourage visitors to experience the park with three different lenses: art, culture, and nature. Likewise, these topic-focussed walking tours can be extended through the length of the continuing park, with the addition of an engineering-focussed tour.

Per the San Pedro Creek Culture Park Interpretive Plan Committee's commitment to telling "the story of San Pedro Creek," as established with the project theme, the decision was made to tell only stories tangent to the creek, rather than general stories related to Bexar and San Antonio history in general.

The project's interpretation was further defined to follow a Cultural Landscape Studies approach. This collective, *longue-durée* strategy understands individual monuments and events within the larger context of gradually developing social processes and evolving social structures.

COMMITTEE WORK TO DEFINE THEME AND STORYLINES

During the San Pedro Creek Interpretive Plan Committee Meeting on October 26, 2018, two brainstorming sessions were held. The first was to identify messages that committee members thought the project should impart to visitors. The second was to identify stories that committee members thought the park's interpretation should address.

QUESTION 1

What is the MESSAGE that you want visitors to take home from the San Pedro Creek Culture Park (SPCCP)? What do you want visitors to grasp?

- That San Pedro Creek is historically significant
- That water is the basis for everything, including the city itself
- That San Pedro Creek represents the confluence of people from indigenous to recent arrivals and the histories they bring
- That San Pedro Creek is an American story
- That the creek has been used for economic production
- That the creek and the river are deceptive (scale-wise): they are impressive in impact, though diminutive in scale; likewise, San Antonio was small but hugely important
- That the SPCCP should be a friendly place, a place for families; it should provide a format for creating memories
- That the SPCCP (and the creek itself) should be an educational place
- That the Creek = Life
- That the creek is unique in being both south and west
- That the creek is situated at a Crossroads:
 - Camino Real
 - Cattle Drives
 - Santa Anna
- That the SPCCP is embedded in different ecologies:
 - The natural
 - The cultural
 - The art
- That San Pedro Creek was sacred to indigenous populations and is the bedrock of cultures that followed
- That the creek has been critical to the local economy
- Education (water biology classes)
- That Phase 1.2 is a dense place of historical and cultural influence

- That this is a place of Timelessness and Continuity: It's not just about the past but open to the present. It's a Living Thing.
- That the meaning of this place is tied to Migrations: everything is moving: the water moves, people move
- That this place is about Contemplation
 - Contemplative state of mind to be able to be receptive to absorb all the layers of history, culture, nature, life, and memory
 - Similar to Art, it evokes a sense of meaning that can be put into words
 - The creek is a continuum of so many things
- Concern for short attention spans and needs of the next generations

QUESTION 2

What important STORIES should the San Pedro Creek Culture Park address (from Phase 1.2 through Phase 4)?

- The idea that this place is pre-historic and the dinosaurs where once there. Put big footprint of dinosaurs or the fauna leaves
- Or a mastodon
- We have some of the story in the first part of the creek, continue in the same vein
- Battles certain arrival of groups, economic production
- Fish in the creek and also mussels and *camaron* (shrimp) and crawfish
- People were living on that creek (washing clothes, fishing), people owned property (like *Casa Navarro*) that's what it was
- Keep it very interactive to keep it belonging to the people
- Black communities that live around church this can be traced through deed records
- The thread that runs everything together is the springs list of various peoples, the Presidio families, the Canary Island settlers, and the acequias that the Spanish built
- Natural resources before humans occupied the area then establish that other groups arrived and then go down the creek and talk about how others arrived
- At one point the Spanish-speaking theater district, for the Mexican-American community, was significant
- Six or so early Spanish/Hispanic founding groups
- African-American community
- Italian community
- Lebanese community
- Laredito
- The creek formed the west edge of village and provided protection
 o (cemetery other side)
 - An entry point for new groups

- The creek, there's two sides, west of the creek was a Mexican town there are both sides of the creek
- 2 Sides of creek developed differently
 - West = Mexican and Chinese school
 - East = Belgians (market)
- Contemplation definition, looking at something for a long time talks of the presence of mind, contemplative state of mind that it allows the depth and focus to understand everything. That will help to establish a voice, or narrative.
- Talk about people in their proper presence, what kid wouldn't like to be represented in some way to make it inclusive, nod to groups that have had an impact
- All groups coming together for commerce, Where everyone is congregating
 - Can use commerce to discuss ethnic diversity
- Transient groups gypsy caravans
- People look no more than 3 minutes than anything, how to make an impactful statement
- In order to grab attention, it has to be remarkable and unlike someplace else if you see works of art
 - Transformation illustrated by a lot of things:
 - Railroad arrival
 - Creek became unhealthy
- Natural history stories



Ducks enjoying the San Pedro Creek Culture Park (by Toxey/McMillan Design Associates)

INTERPRETATION TOPICS BY LOCATION

I. HOUSTON ST. TO COMMERCE ST. BRIDGES

BRIDGE PANEL 1.BR: HISTORY OF HOUSTON STREET/BRIDGE NAME

- PANEL 1.1: EARLY OCCUPATION/SETTLEMENT ALONG AND WEST OF SAN PEDRO CREEK
- PANEL 1.2: AFRICAN-AMERICAN SETTLEMENT AND WORSHIP NEAR SAN PEDRO CREEK
- PANEL 1.3: WESTSIDE THEATERS
- PANEL 1.4: SPCCP ECOLOGY: AQUATIC PLANTS AND PLANTINGS
- PANEL 1.5: ENGINEERING FEATS OF THE SPCCP

II. COMMERCE ST. TO DOLOROSA ST. BRIDGES

BRIDGE PANEL 2.BR: HISTORY OF COMMERCE STREET/BRIDGE NAME

- PANEL 2.1: IMPACT OF THE MEXICAN REVOLUTION ON THE WEST SIDE OF SAN PEDRO CREEK (INCLUDING CONTINENTAL HOTEL)
- PANEL 2.2: PRESIDIO SAN ANTONIO DE BÉXAR AND MILITARY PLAZA
- PANEL 2.3: SPCCP ARCHAEOLOGICAL FINDS
- PANEL 2.4: SPCCP ECOLOGICAL ENHANCEMENT PROGRAM + NATIVE BIRDS
- PANEL 2.5: LAREDO STREET AND LAREDITO

III. DOLOROSA ST. TO NUEVA ST. BRIDGES

BRIDGE PANEL 3.BR: HISTORY OF DOLOROSA STREET/BRIDGE NAME

- PANEL 3.1: SPCCP ECOLOGY ZONE 1: TOLERANT FISH
- PANEL 3.2: SPCCP ENGINEERING DESIGN: LOW IMPACT DEVELOPMENT (LID) FEATURES
- PANEL 3.3–3.4: SPCCP MAP–TIMELINE HIGHLIGHTING NAVARRO, DE La Garza, and Ruiz Houses and Situating Significant Historical Bexar Events (including Revolutionary Battles)

PANEL 3.5: SPCCP ENGINEERING DESIGN: GATE AT NUEVA STREET [to be developed as part of Phase 1.3] ADDITIONAL MOBILE APP/WEBSITE TOPIC: HISTORIC KITCHEN GARDENS ALONG SAN PEDRO CREEK

IV. NUEVA ST. TO CHAVEZ ST. BRIDGES

BRIDGE PANEL 4.BR: HISTORY OF NUEVA STREET/BRIDGE NAME

- PANEL 4.1: PEOPLE OF SAN PEDRO CREEK
- PANEL 4.2: URBAN RENEWAL AND EXPANSION OF GOVERNMENT BUILDINGS
- PANEL 4.3: CATTLE GRAZING/SLAUGHTERING/SHIPPING
- PANEL 4.4: HISTORIC ENGINEERING EFFORTS ALONG SAN PEDRO CREEK
- PANEL 4.5: LATE 19TH TO EARLY 20TH-CENTURY INDUSTRY ALONG SAN PEDRO CREEK

V. CHAVEZ ST. BRIDGE TO EL PASO ST. [Phase 4, possibly no exposed creek]

BRIDGE PANEL 5.BR: HISTORY OF CHAVEZ STREET/BRIDGE NAME

- PANEL 5.1: MKT RAILROAD AND CULVERTING OF SAN PEDRO CREEK
- PANEL 5.2: INDUSTRIALIZATION SURROUNDING MKT RAILROAD AND SAN PEDRO CREEK
- PANEL 5.3: SPCCP ECOLOGY: NATIVE SHADE TREES
- PANEL 5.4: U.S. ARMY ARSENAL STORY
- PANEL 5.5: SPCCP ECOLOGY: NATIVE ORNAMENTAL TREES

VI. EL PASO TO GUADALUPE STREETS [Phase 4, possibly no exposed creek]

BRIDGE PANEL 6.BR: HISTORY OF EL PASO/ARSENAL STREET NAME

PANEL 6.1: SAN PEDRO CREEK ECOLOGY: NATIVE REPTILES AND AMPHIBIANS

PANEL 6.2: SAN PEDRO CREEK AND ACEQUIA SYSTEM

- PANEL 6.3: SAN PEDRO CREEK ECOLOGY: NATIVE SHRUBS, VINES, AND GROUND COVERS
- PANEL 6.4: HISTORY OF FLOODS AND CREEK CHANNELING + SAN PEDRO CREEK FLOOD CONTROL TUNNEL OUTLET

VII. GUADALUPE ST. TO CAMP ST. BRIDGES

BRIDGE PANEL 7.BR: HISTORY OF GUADALUPE STREET/BRIDGE NAME

- PANEL 7.1: HISTORICAL RESIDENTIAL AND COMMERCIAL DEVELOPMENT ALONG SAN PEDRO CREEK AND FLORES STREET
- PANEL 7.2: SPCCP ECOLOGY: ZONE 2: INTERMEDIATE FISH
- PANEL 7.3: SPCCP ECOLOGY: AGAVES AND OTHER SUCCULENTS
- PANEL 7.4: SPCCP ENGINEERING: CDS[®] Systems for Trash Removal
- PANEL 7.5: SPCCP ECOLOGY: HISTORIC AQUATIC CREEK FAUNA AND THE RETURN OF NATIVE SHELLFISH AND CRUSTACEANS

VIII. CAMP ST. TO S. ALAMO ST. BRIDGES

BRIDGE PANEL 8.BR: HISTORY OF CAMP STREET/BRIDGE NAME

PANEL 8.1: CANDY PRODUCTION ALONG SAN PEDRO CREEK (AND RECENT PACE DEVELOPMENTS) PANEL 8.2: SPCCP ECOLOGY: NATIVE DRAGONFLIES AND

DAMSELFLIES

IX. SOUTH ALAMO ST. TO CEVALLOS ST. BRIDGES

- BRIDGE PANEL 9.BR: HISTORY OF SOUTH ALAMO STREET/BRIDGE NAME
 - PANEL 9.1: SPCCP ENGINEERING: BASE STREAM FLOW AND AUGMENTED STREAM FLOW
 - PANEL 9.2: ARRIVAL OF THE SAP RAILROAD AND TRANSFORMATIONS TO SAN PEDRO CREEK AND FORMER LABORES
 - PANEL 9.3: SPCCP ECOLOGY: NATIVE PERENNIALS AND GRASSES

- PANEL 9.4: HISTORY OF THE PECAN TREE ALONG SAN PEDRO CREEK (FROM INDIGENOUS USES OF PECANS TO LARGE-SCALE PECAN CULTIVATION)
- PANEL 9.5: PECAN SHELLERS' STRIKE: A SOCIAL AND INDUSTRIAL HISTORY

X. CEVALLOS ST. BRIDGE TO I-35 OVERPASS

BRIDGE PANEL 10.BR: HISTORY OF CEVALLOS STREET/BRIDGE NAME

PANEL 10.1: SPCCP ECOLOGY: NATIVE POLLINATORS PANEL 10.2: LABORES DE ABAJO: BREAD BASKET OF BÉXAR PANEL 10.3: HIGHWAY CONSTRUCTION PANEL 10.4: SPC ECOLOGY: ZONE 3: NATIVE (INTOLERANT) FISH PANEL 10.5: UNION STOCKYARDS PANEL 10.6: SPCCP PROGRAM GOALS AND OVERVIEW

SITE MAPS WITH PANEL LOCATIONS

The two attached maps (Attachment 1 and Attachment 2) identify locations for the interpretive panels, indexed above.

- The first map (Attachment 1) is a detailed design layout of Phase 1.2 with very specific locations for interpretive panels.
- The second map (Attachment 2) is a generalized phase map for the project with proposed locations for the interpretive panels. Though too small to read, please see this map reproduced on the following page for reference.

PANEL PLACEMENT PROVISO

Many of the panels describe historic features or events and have been located in proximity to these. The exact placement, however, will need to be determined in coordination with the design of these areas. Similarly, many of the panels describe design and engineering features of the project whose exact locations have not yet been determined (for example, CDS structures, bioswales, specific flora, etc.). The locations proposed here are provisional and will need to be updated once the later project phases have been designed and the locations of these features have been determined.



Proposed locations for interpretive panels overlaid on project phase map —for general reference only. Panel numbers correspond with the topics listed on pp. 18–21.

To view a larger, legible version of this map, please see Attachment 2.

Close-ups of each topic section are included with the Storyline Development on pp. 23–131.

STORYLINE DEVELOPMENT

I. HOUSTON ST. TO COMMERCE ST. BRIDGES

BRIDGE PANEL 1.BR: HISTORY OF HOUSTON STREET/BRIDGE NAME

- PANEL 1.1: EARLY OCCUPATION/SETTLEMENT ALONG AND WEST OF SAN PEDRO CREEK
- PANEL 1.2: AFRICAN-AMERICAN SETTLEMENT AND WORSHIP NEAR SAN PEDRO CREEK
- PANEL 1.3: WESTSIDE THEATERS
- PANEL 1.4: SPCCP ECOLOGY: AQUATIC PLANTS AND PLANTINGS
- PANEL 1.5: ENGINEERING FEATS OF THE SPCCP



Detail of Attachment 2

BRIDGE PANEL 1.BR: HISTORY OF HOUSTON STREET/BRIDGE NAME

Originally named Rivas Street for a prominent family, the street was later renamed for Sam Houston: Texas general, president, senator, and governor.



View north of the SPCCP from the Houston Street bridge (by Toxey/McMillan Design Associates)

PANEL 1.1: EARLY OCCUPATION/SETTLEMENT ALONG AND WEST OF SAN PEDRO CREEK

As the Spanish slowly expanded control over the vast area that the crown claimed as New Spain, centered in Mexico City, they encountered a wide variety of indigenous people. The northeastern area of today's Mexico (the states of Coahuila, Tamaulipas, and Nuevo León) and the southern coastal plain of today's Texas were home to small bands—loosely associated by language, lifestyle, and world view—that anthropologists refer to as Coahuiltecans. These groups were hunters and gathers who moved around their large territories with the seasons, harvesting game and a wide variety of edible and medicinal plants.

One of these bands, the Payaya, ranged the area generally located between the Guadalupe and Nueces rivers and from the Edwards Plateau to the Gulf of Mexico. While archeological evidence is extremely limited, it appears that the ancestors of the Payaya occupied the area around Bexar County beginning about 12,000 years ago.

The Payaya and the other Coahuiltecan bands faced a critical dilemma at the end of the 17th century. Spanish explorers and settlers were advancing on their territory from the south, and at the same time Apaches were increasingly raiding from the north. Like other bands, the Payaya decided that the Spanish would do them less harm than the Apache, so they tried to negotiate with the southern invaders in the hope of protection from the northern ones. They let it be known that Spanish missions and presidios would be tolerated, if not welcomed, in their lands.

The Spanish had already established outposts and missions among a few of the indigenous bands in today's east Texas and western Louisiana. While the Spanish encouraged their new allies to become agriculturally based, Spanish-type settlers, the major reason for these settlements, from a political perspective, was to defend the crown's claim to the area against the French, who had claimed all the lands drained by the Mississippi (including, for example, the Red River).

Around 1700 two Spanish expeditions stopped at a Payaya *ranchería* and named the river they found San Antonio de Padua (1691) and the creek San Pedro (1716). In 1718 the viceroy of New Spain, the Marqués de Valero, authorized Martín de Alarcón to establish a way station on the San Antonio River between Mission San Juan Bautista on the Rio Grande and Spanish missions in east Texas. The Alarcón expedition arrived along the creek flowing from San Pedro Springs in late April and selected a site for Mission San Antonio de Valero, which was turned over to Fray Antonio Olivares, the accompanying Franciscan missionary

on May 1st. Four days later, Alarcón founded a military and civilian establishment (San Antonio de Béxar) near the springs.

The area along the creek soon proved unsatisfactory, so the religious, military, and civilian communities were moved south to land on either side of the San Antonio River. By the mid-1720s, the mission had been relocated to the east side of the river (today's Alamo Plaza), and the military and civilian settlement was positioned between the river and the creek (today's Military Plaza). A major expansion occurred in 1731 when sixteen families from the Canary Islands arrived at the presidio and were granted a town site between the presidio and the river (today's Main Plaza) and agricultural and grazing land between the river and the creek north and south of the town site. Most of the city's residential and commercial growth for the next 100 years was centered around these plazas, while the land lining San Pedro Creek and beyond was relegated to tracts for farming and grazing.



View of today's Military Plaza and renovation of City Hall (by Toxey/McMillan Design Associates)

PANEL 1.2: AFRICAN-AMERICAN SETTLEMENT AND WORSHIP NEAR SAN PEDRO CREEK

During the quarter century after the presidio of San Antonio de Béxar and mission of San Antonio de Valero moved from the west side of San Pedro Creek in the 1720's, the Spanish presence focused on the area between the creek and the San Antonio River. The threat of Apache raids prevented the community's use of land west of the creek. The new settlers from the Canary Islands were therefore granted land between the two streams north and south of their municipal center (Main Plaza), which was between the presidio (Military Plaza) and the river.

Once peace was reached between the Spanish and the Apache, civic leaders granted land to citizens west of the creek, but these parcels were used primarily for farming and grazing. It would be another hundred years and changes in sovereignty from Spain to Mexico to Texas to the United States before commercial activity developed along San Pedro Creek, making the creek a locus for early industrial pursuits.

In addition to the better documented ethnic groups—such as Germans and other northern Europeans—who flocked to San Antonio following Texas independence, African Americans were also prevalent among the citizenry in the 19th century (and since). Though dispersed throughout the city, the second largest concentration of African-American residences in the late 19th century was just west of San Pedro Creek, above Houston Street (see map, below).



Map of San Antonio,1897, showing African-American residents (red dots) as reported in the City Directory (by Clinton McKenzie, UTSA Center for Archaeological Research)

Unlike their Hispanic and European neighbors, however, who left many marks upon the landscape, the African-Americans' material record is less visible. This is why uncovering the foundations and an engraved cornerstone of an African Methodist Episcopal (AME) church located along San Pedro Creek during the SPCCP channel widening was such an important find.



Engraved cornerstone of the AME church located between Cameron Street and San Pedro Creek. It served the local African-American community from ca. 1875–1877 (by San Antonio River Authority)

Sited just south of Houston Street, the church fronted onto San Pedro Street (now called Camaron Street) and backed up to San Pedro Creek. The church was situated among early industrial efforts located along San Pedro Creek, largely led by German entrepreneurs—such as Frederick Klemcke's soap and candleworks (1849), Johann Simon Nicholas Menger and Joseph Veltman's vinegar business (1850), a gas manufacturing plant (1859, later the Alameda Theater), an ice factory, and several breweries. In fact, the church, known as St. James Chapel, was located within a site that served as a soapworks for 30 years prior to being a church, and served as an ice factory and brewery for two decades afterward. Klemcke sold his soap and candleworks business in 1851 to Simon Menger, who continued making soap there until a devastating flood in 1859. Menger then purchased an upstream site where he operated the San Antonio Soap Works until 1917.

Starting about 1870, Menger rented his San Pedro (Camaron) Street soapworks property to the African Methodist Episcopal Church to serve the neighborhood's black community as a place of worship. The congregation bought the property in 1873 and continued to occupy it until the late 1870s, building an addition 1875, whose corner stone was recovered during the SPCCP earthworks. In the 1880s, the old soap works and church were razed and became the site of the Alamo Ice and Brewing Company. That complex was purchased by Adolphus Busch in 1895 and demolished by the late 1890s.

St. James Chapel on San Pedro Creek was the second AME church in San Antonio. It was preceded by St. Mary's Chapel (also known as Green's Chapel). Control over the land and building of the first edifice resulted from a schism in the congregation, multi-year lawsuit, and construction of a second chapel.¹

According to church records, the AME Church was organized in San Antonio in the fall of 1867 under the name St. James, with an alternate Methodist Episcopal (ME) Church North congregation forming in 1868.² By the time these congregations had settled their differences in 1878, the St. James AME Church moved again to the northeast corner of Centre and North streets, selling the Cameron Street property to Edward Steves in 1880.³ At that time, the property was already in use as an ice factory.⁴ St. James AME Church moved later again, finally settling at 402 North Richter Street, where it continues to serve a broad community.

¹ "Timeline of property occupied at various times by Menger/AME Church/Alamo Ice Company/ Alamo Ice and Brewing Company," by Maria Watson Pfeiffer (unpublished)

² "The Legacy of Saint James African Methodist Episcopal Church of San Antonio, Texas," by the Reverend Lorenzo E. Ausbie, Pastor of St. James, 1981–1989 (unpublished)

³ Mooney & Fourmy, *Mooney and Fourmy's Directory for the City of San Antonio,* (Marshall: Jennings Bros., 1879), p. 72, in Pfeiffer (unpublished).

⁴ BCDR 12:64 (AME to Steves, December 11, 1880), in Pfeiffer (unpublished)

PANEL 1.3: WESTSIDE THEATERS

In the early 20th century, well before radio, television, and certainly the Internet, popular entertainment was provided primarily by traveling companies that presented drama, music, and comedy to an audience often in need of a little diversion from hard daily life. In 1912 the first Westside theater opened on W. Commerce Street near San Pedro Creek. Teatro Zaragoza presented entertainment by touring groups mainly from Mexico. It soon added Spanish-language films, again mostly from Mexico. Fueled by refugees from the Mexican Revolution throughout the 1910s, the audience grew substantially. Five years after the Zaragoza's debut and two doors away, the Teatro Nacional opened with a 1000-seat auditorium. These two theaters formed the nucleus of a Westside Spanish-language cultural area that included a newspaper, book stores, and restaurants. Over the years, motion pictures slowly replaced live acts as the main fare of these theaters, particularly after the introduction of talkies in the early 1930s. Unfortunately the 1930s also brought the Great Depression, which ended the early growth period of Spanish-language theaters.

After the austerity of the World War II years, the prosperity of the late 1940s allowed a resurrection of the cultural area around the old Teatro Nacional site. A block away, on Houston Street, the Alameda Theater opened in 1949. With 3,000 seats, it was the largest Spanish-language theater in the country. Like its predecessors, the Alameda hosted the most well-known and popular entertainers from Mexico as well as first-run movies from both Mexico and the U.S.

Suburban growth in the post World War II years led to general decline in downtown San Antonio. This trend, coupled with the popularity of television during the 1960s and 1970s, resulted in the Alameda's closure in the mid-1980s. Through a County/City/private partnership, the theater has a new lease on life as a small performance space supported by offices, notably the location of San Antonio's public radio station.



Alameda Theater with SPCCP construction (by Toxey/McMillan Design Associates)
INTERPRETIVE PLAN 30

PANEL 1.4: SPCCP ECOLOGY: AQUATIC PLANTS AND PLANTINGS

Urban waterways, such as San Pedro Creek, flow through areas covered in large part by pavement and buildings. Among the many challenges this terrain presents, the lack of absorbent surfaces—such as grasslands, wetlands, rain gardens, and permeable pavers—is perhaps the greatest factor contributing to both flooding and degraded water quality. Rain generates runoff that picks up surface dirt, oil, and trash as it heads downhill to creeks and rivers. If not partially absorbed or filtered, the runoff may quickly lead to flooded streets. Regular cycles of extended drought and severe storms produce a concentration of pollutants in stormwater, while concrete channelization (the previous condition of San Pedro Creek) prevents filtration of the water by plants that a more natural, meandering creek provides.

During the development of the San Pedro Creek Culture Park, aquatic plants were reintroduced and have succeeded in mitigating some of these polluting factors. Hardy native species of plants have been selected and grouped together in protective planting pockets. Since the prioritized goal of this downtown segment of the creek remains flood control (preventing inundation of streets and property), the durable concrete armoring remains. It defines the creek's banks and creates artificial aerating features over which the water flows, while performing the essential function of accommodating quickly fluctuating water levels with minimal erosion. In this context, the aquatic plants enhance water filtration, sequester pollutants, and provide wildlife with food and shelter. Fish, birds, turtles, frogs, snakes, insects, macroinvertebrates, and human beings all benefit.

Selected Aquatic Plants:

Horsetail *(Equisetum hyemale):* This is a relic from a class of plants extending back over 100 million years to late Paleozoic forests. Like ferns, the Horsetail features a vascular system of tissues that conduct water and nutrients throughout the entire plant, and it reproduces from the dispersal of spores rather than seeds. The plant's rhizomes (underground stems that spread via lateral nodes and shoots) were utilized for basketry by indigenous peoples.

Pickerelweed *(Pontederia cordata):* This aquatic plant features a stalk of small purple flowers that bloom progressively upward and provide nectar to bees and butterflies. It also serves as a structural plant for dragonflies and damselflies who lay eggs on its stems near the water surface. As the name suggests, the plant's underwater thicket offers prime habitat for fish to hide. Pickerelweed excels at

bio-purification, removing excess nutrients from the water (such as nitrogen and phosphorous from fertilizer runoff) and improving water clarity. [This species was previously pictured in the Phase 1.1 ecology panel.]

Arrowhead (Sagittaria latifolia): Native Americans valued this nutritious food source for its starch-rich tubers formed on rhizomes buried in the mud. Ducks also feed on them, giving rise to the nickname "duck potatoes." Its common name (as well as botanical genus, meaning archer) refers to its arrow-shaped leaves. Tri-petaled white flowers grow in a whorled pattern.

Water Lily (family *Nymphaeaceae):* The long stalks of water lilies are filled with tiny air pockets arising from thick horizontally spreading stems buried in mud under water. Flowers open for only certain hours during the day and attract specific pollinator cohorts. Underwater plant parts support aquatic dragonfly larvae that develop near or on the plant until they mature enough to climb out into the air.

Typical Timing of Blooms:

Morning–midday: Midday: Midday–late afternoon: American white water lily Blue water lily Yellow water lily



Aquatic plants thriving in Phase 1.1 of the SPCCP (by Toxey/McMillan Design Associates)

PANEL 1.5: ENGINEERING FEATS OF THE SPCCP

Converting San Pedro Creek into both an effective flood-control channel and a linear park involved numerous engineering challenges. For over two centuries, San Pedro Creek has been the focus of efforts to prevent flood water from overflowing the creek's banks. The San Pedro Creek Culture Park (SPCCP) brings hope of a final solution to flood prevention as well as an appealing new attraction to the city which is revitalizing its borders with development. To accomplish these feats, engineers were tasked with increasing channel capacity, improving water quality, rebuilding bridges, and incorporating aesthetic features. These tasks were particularly challenging when working in the central business district of a 300-year-old city.

First and foremost. San Pedro Creek must be able to handle the intermittent flooding from rain, for which San Antonio is known. While the San Pedro Creek flood tunnel significantly reduces the risk of a catastrophic flood event, there remained areas between the inlet and outlet shafts of the tunnel that were still at risk because of the creek's narrow width and shallow depth. The SPCCP corrected this problem by widening and deepening the channel in order to increase channel capacity. To do this, however, engineers and project management had to overcome numerous obstacles. First, negotiations had to be initiated with businesses whose parking lots and buildings were being encroached. Once excavations began, work frequently came to a halt as thousands of archaeological artifacts and foundations of long-forgotten structures were discovered. Sections of channel walls-which would be easier to replace than save, from an engineering standpoint-were instead carefully preserved as relics. New walls were constructed to accommodate the channel's increased dimensions. To support some of these walls, tightly spaced concrete piers were poured, extending as much as 60 feet underground.

Channel widening also led to the replacement of eight bridges. This had to be done as quickly as possible to mitigate disruption to commerce and traffic, and it involved moving the utility lines mounted beneath the bridges to their new locations buried beneath the channel. Other utilities were found by surprise because they were not known to exist or because drawings were inaccurate. Some of these utility lines had been abandoned, while others were still active. Occasionally, the owner or function of a utility line was a mystery until that service was severed.

More recent additions to the channel were also dealt with; one dozen electric scooters were recovered from the creek by the end of 2018.

Since the Project involved working in an active flood channel, engineers had to create a solution to mitigate jobsite flooding. A dam was created across the channel, eight feet below grade. Pumps were installed to lift rainwater (which collected in perforated pipes) over the dam and into the finished portion of the creek channel. This system was tested when four inches of rain fell in August 2017. The eleven feet of water that submerged a section of the job site were pumped out by the next morning, saving many days of construction downtime.



Massive, densely placed, underground concrete piers used to meet engineering challenges in Phase 1.2 of the SPCCP (by Toxey/McMillan Design Associates)

The section of creek downstream from the tunnel outlet shaft is offered no protection from the tunnel. This area was at greatest risk from flooding. The SPCCP project addressed this less urbanized section of the creek by increasing its water capacity, as well. Most of the 30 acres that the project removed from the floodplain was located along this section. Creek flow is controlled through the park by pumping water into the creek from the bypass tunnel. To maintain a sufficient quantity of water in the creek, primarily for aesthetic reasons but also to support aquatic flora and fauna, three gates were added to impound water. These gates, one each at Travis, Nueva, and Alamo streets, create impoundment zones that widen the water-surface area and prevent water from flowing downstream too quickly.

To maintain water quality sufficient to support flora and fauna—and safe for children wading in Plaza de Fundación—stormwater is treated with nature-mimicking bioswales and bioretention and with CDS[®] systems. Near Houston Street, the channel walls and channel bed were lined with concrete to prevent leeching of contaminants into the stream water from the soil, a legacy of the San Antonio Gas Company, which was once located on the site where the Alameda Theater now stands.

Harnessing the waters of a creek as it flows downtown through a city situated within the notorious Flash Flood Alley of Central Texas would be challenging enough. Recognizing the opportunity to create much more than just an effective drainage ditch, county leaders tasked engineers to come up with solutions to the challenges of transforming a drainage ditch into a park, with visitor accessibility, maintained water flow, and improved water quality. Further widening the channel to create creek-side paseos The SPCCP team not only managed to do that, but they also created a significant enhancement to the cultural amenities of San Antonio and Bexar County and a welcome respite from the urban environment above. The planting of over 15,000 plants, shrubs, and trees, and over 31,000 square feed of ground cover in phase 1.1 alone help turn this former drainage ditch into a lush and beautiful linear park.

II. COMMERCE ST. TO DOLOROSA ST. BRIDGES

BRIDGE PANEL 2.BR: HISTORY OF COMMERCE STREET/BRIDGE NAME

- PANEL 2.1: IMPACT OF THE MEXICAN REVOLUTION ON THE WEST SIDE OF SAN PEDRO CREEK (INCLUDING CONTINENTAL HOTEL)
- PANEL 2.2: PRESIDIO SAN ANTONIO DE BÉXAR AND MILITARY PLAZA
- PANEL 2.3: SPCCP ARCHAEOLOGICAL FINDS
- PANEL 2.4: SPCCP ECOLOGICAL ENHANCEMENT PROGRAM + NATIVE BIRDS
- PANEL 2.5: LAREDO STREET AND LAREDITO



Detail of Attachment 2
BRIDGE PANEL 2.BR: BRIDGE PANEL: HISTORY OF COMMERCE STREET/BRIDGE NAME

Originally named Presidio Street because it formed the north boundary of Presidio San Antonio de Béxar, this portion of the street was renamed Commerce to indicate its importance to the city's business activities. Other portions at various times were named Alameda and Main.



Looking south from the Commerce Street bridge at SPCCP construction (by Toxey/McMillan Design Associates)

PANEL 2.1: IMPACT OF THE MEXICAN REVOLUTION ON THE WEST SIDE OF SAN PEDRO CREEK

Even though the land on both sides of San Pedro Creek had been settled in the last half of the 19th century by immigrants from many Old World countries and also included a substantial African American community, by the early 20th century the area was largely occupied by working-class Mexican Americans. This community supplied vendors for the Westside market, located two blocks west of the creek on Commerce Street, and it also patronized the area's many small stores and other businesses.

The Mexican Revolution, beginning in 1910, brought large numbers of refugees to Texas and particularly to San Antonio. Many of these newcomers found shelter in the neighborhoods along San Pedro Creek. By the 1920s, the area between Milam Park and San Pedro Creek had become the community center for Mexican refugees. Doctors, lawyers, and other professionals established their practices along the narrow streets. Spanish-language books and newspapers were available in shops and newsstands, and merchants sold produce, meat, and spices catering to the Mexican refugees in small stores and at the nearby market. On weekends crowds gathered in Milam Park to attend political rallies, hear orators read news, and enjoy musical performances. Vaudeville houses, and later movie theaters, attracted popular entertainers and screened the latest films for their Spanish-speaking audiences.



Former Continental Hotel (by Toxey/McMillan Design Associates)

In addition to refugees, soldiers and their families crowded the city in the years before and after World War I. The housing shortage and increase in poverty, particularly during the Great Depression, contributed to the construction of *corrales*, multi-family structures built around outdoor hydrants and privies.

Beyond Milam Park and Santa Rosa Hospital to the north, Franklin Square became the center of a thriving neighborhood of Hispanic and Italian families, many of whom did business at the nearby municipal market. It was there that the Christopher Columbus Italian Society, founded in 1890, purchased land to build San Francesco di Paola Church and Christopher Columbus Hall in 1927–1928 near the site believed to be the original location of Mission San Antonio de Valero in 1718.

PANEL 2.2: PRESIDIO SAN ANTONIO DE BÉXAR AND MILITARY PLAZA

After the initial Spanish discovery of the San Antonio River and San Pedro Creek in 1691, viceroyal officials in Mexico came to believe that the San Antonio area would make a good way station between the settlements south of the Rio Grande and the missions located on the eastern border of the empire, very near French Louisiana. The newly appointed governor of the Province of Texas, Martín de Alarcón, led an expedition of soldiers and support workers that arrived at the future site of San Antonio in April 1718. A few days later, they were joined by a small group of priests and converted indigenous people led by Fray Antonio de Olivares. On May 1, 1718, this religious band established the mission of San Antonio de Valero, believed to have been sited on San Pedro Creek near the present location of San Francesco di Paola. Four days later, Alarcón established the military and civilian settlement of San Antonio de Béxar consisting of soldiers, their families, and a support community. Although the exact locations of the settlement is unknown, it is believed to have been situated near San Pedro Springs. The initial structures that defined these establishments were temporary jacales made of brush and mud, which have left no traces.

In 1719 the mission buildings burned, and the mission was moved to a new location, believed to be in or near present-day La Villita. In 1722 the new governor, Marqués de Aguayo, ordered the military settlement (known as a presidio) to be moved south and across San Pedro Creek to the site of present-day Military Plaza, where buildings were constructed of more durable adobe. The only building remaining from this era is the *Commandancía* (currently known as the Governor's Palace), which served as the presidial commander's house and office.



Commandancía (Governor's Palace) facing Military Plaza (by Toxey/McMillan Design Associates)

Its garden backed up to San Pedro Creek, like most houses that lined the creek, giving the creek a pastoral quality.

In 1724 the mission was moved for the final time to its current location on the east bank of the San Antonio River, and the long process of building it of stone began.

In 1731 sixteen families arrived from the Canary Islands and were granted land between the presidio and the river (the site of present-day Main Plaza) to establish the first chartered municipality in Texas, San Fernando de Béxar. The church and civil government building *(Casas Reales)* were built on opposite sides of the new central plaza. Civilian town lots formed the remaining sides of the plaza, and agricultural and grazing fields spread out mostly north and south of the plaza, bordered by San Pedro Creek and the San Antonio River.

Over the next 100 years, the military, civil, and religious communities, despite arguments over land and water rights, had to cooperate to survive on a dangerous frontier.

At the presidio, the adobe structures were slowly replaced by stone buildings. After the Texas Revolution in 1836, Military Plaza evolved from largely residential to commercial use. In the 1850s a new government building, commonly called the Bat Cave, was built in Military Plaza, and city and county functions were moved to it from the old Casas Reales on Main Plaza. Throughout the 19th century, Military Plaza was the most important commercial center in San Antonio. In addition to stores, shops, saloons, and other businesses, a vibrant open-air market occupied the plaza. This was one of the major sites for San Antonio's famous chili queens.

In 1891 the market was moved and replaced by San Antonio's new city hall (while the county's new courthouse was being built on Main Plaza), and Military Plaza was landscaped.

PANEL 2.3: SAN PEDRO CREEK ARCHAEOLOGICAL FINDS

An important part of the San Pedro Creek Culture Park project was archaeological monitoring and sampling before and during construction, as well as a more thorough trenching excavation of Calder Alley, located between the Governor's Palace and San Pedro Creek (formerly part of the garden behind the Spanish Commandancía). These efforts aided the identification and preservation of important cultural features along the creek and also provided artifacts from over 300 years of occupation.

The Calder Alley excavation recovered 32,000 artifacts, many of which date to the late Spanish colonial period. They reveal information about life in San Antonio de Béxar. Raba-Kistner Consultants, Inc., is developing a report on this excavation, whose conclusions will inform the interpretive panel 2.3.

A significant site for documenting the early Spanish colonial settlement along San Pedro Creek is the Christopher Columbus Italian Society property at the north end of the San Pedro Creek Culture Park. The early 18th century pottery sherds, glass fragments, and chert projectile points found here add physical evidence to the archival material that supports the theory that this was the site of the original mission of San Antonio de Valero.

Due to 150 years of intensive construction along the creek banks and due to the fact that the creek banks and bed have been altered for flood control numerous times—including the use of fill from unknown locations to support the banks and to raise the surrounding ground level by 5–6 feet to escape flooding—the stratification of soils, which is used to date artifacts, has been lost. Most artifacts recovered during monitoring have been found out of context and in disturbed areas. These finds therefore represent a mixture of items from the 18th, 19th, and 20th centuries. Though jumbled, they nevertheless provide tangible evidence of the uses and users of San Pedro Creek simply from the location and composition of the artifacts in various areas of the creek.

What has been intact and in situ are portions of foundations and footings of buildings, for example, the Alamo Ice and Brewing Company located at Cameron and Houston Street. Geo-referenced with Sanborn Fire Insurance maps, these and other recovered foundations reveal the urban development of San Pedro Creek from the mid-19th century through the mid-20th century.

In addition to finding large brick scatters (which can also be dated) and other architectural materials during the monitoring process, many glass bottles were recovered. A few mid-19th century military artifacts

such as gun flints, a cannon ball, and a revolver were also found, but their ties to the Texas Revolution and to San Pedro Creek are unclear as they were located out of context, such as in fill. Likewise, a Perdiz projectile point (dating to 1,000–500 BP) was found behind the Governor's Palace in an area of fill and therefore sheds no direct light on the Late Prehistoric indigenous presence along the creek.

Raba-Kistner is preparing a second report documenting and interpreting the artifacts recovered in the bed and banks of the creek during the monitoring efforts of phases 1.1 and 1.2. Like the Calder Alley report, this one will be critical to the development of panel 2.3.



Looking south at SPCCP construction from Dolorosa Street (by Toxey/McMillan Design Associates)

NOTE: During the final meeting of the San Pedro Creek Interpretive Plan Committee on February 20, 2020, while discussing Panel 2.3, one attendee mentioned his desire that dinosaur footprints or reproduction fossils be imbedded somewhere within the paving or retaining walls of the SPCCP, since kids love dinosaurs, and since prehuman life is part of the creek's story, too. At present, the author of this document is not aware of paleontological studies having taken place along this urban segment of the creek. While it is probable that the source of the creek at San Pedro Park contains paleontological specimens that document part of this prehistory, it is not possible within the limited space of Panel 2.3 to marry a discussion of prehistoric plants and animals with the discussion of historic, urban, archaeological remains. Nor it is possible to expand the discussion of Panel 3.1 to include prehistoric plants and animals. The author of this plan agrees that the idea is valid, provided that paleontological evidence exists. The suggestion of imbedded footprints or reproduction fossils is therefore being referred to the design team for consideration, with guidance of appropriateness from a professional, local paleontologist.

PANEL 2.4: SPCCP ECOLOGICAL ENHANCEMENT PROGRAM + NATIVE BIRDS

San Pedro Creek continues to evolve out of a history of degradation, in which a free-flowing stream was gradually stripped of natural features and transformed into a concrete channel. While a complete return to a natural creek bed would inhibit its ongoing function as an urban flood channel, partial naturalization has produced exciting benefits. The repopulation of native plant species brings larger systems back to life increasing wildlife habitat while simultaneously beautifying the civic environs.

Scientists continue to study the extent of these impacts on the local ecosystem. For example, River Authority biologists conduct "in-stream" studies (e.g., water sample collections) to compare pre-intervention data with post-intervention data. Ecologists also form conclusions with the help of indicator species. These are animals that are common enough to be reliably studied, sensitive to a wide variety of changes, and responsive to them with predictable behaviors. Birds and fish often meet these criteria and indicate the overall health of a given habitat.

Birds of prey, wading birds, freshwater diving birds, and songbirds are all making a comeback along restored urban greenways and creeks. Examples of sightings along San Pedro Creek include:

Red-shouldered Hawk *(Buteo lineatus):* Multiple generations of this species often return to the same territory for decades. The lifespan can reach 25 years. Hawks feed on small mammals, reptiles, amphibians, and occasionally smaller birds. To identify a Red-shouldered Hawk, look for pale rusty markings on underparts of the body and a long black-and-white barred tail.

Snowy Egret *(Egretta thula):* This brilliant white heron can be identified by its yellow feet, black legs, and bright yellow patch at the base of a black bill. During breeding, adults develop wispy plumage on the back of the head and neck. Seeking these feathers for women's hats, hunters threatened to extirpate this species in the late 19th century. Males and females take turns incubating eggs and care for their young together.

American Coot (Fulica americana): Often mistaken for a duck, this bird has a smaller head than a duck and lacks webbed feet (instead, skin lobes on toes aid mobility in water). It is related to gallinules and moorhens. The American Coot is mostly dark slate-gray. Its chicken-like back and forth movement of the head,



Snowy Egret looking for food (by Toxey/McMillan Design Associates)

however, reveals a white bill below a small brown patch. It usually travels in flocks and dives to feed on aquatic plants.

Black-bellied Whistling Duck *(Dendrocygna autumnalis):* This duck species has long legs and a long neck. Adults mate in long-term pairs. Identified by a solid pink bill, legs, and feet, the species also exhibits a rich chestnut chest and back, black underside, and white wing patches. It prefers aquatic vegetation in shallow water and relies on nearby woodlands for shelter. Males are the primary egg incubators, and both sexes tend the ducklings together. Listen for its four toned whistle call, usually issued in flight.



Black-bellied Whistling Ducks (by Toxey/McMillan Design Associates)

PANEL 2.5: LAREDO STREET AND LAREDITO

The early Spanish expeditions that named and then settled San Antonio de Béxar crossed the Rio Grande at Guerrero near present-day Eagle Pass. Even after Laredo was founded in 1755, most travel between Mexico and San Antonio followed the old Camino Real through Guerrero. Beginning in the early 1800s, however, trade between San Antonio and central Mexico began increasingly to use a somewhat shorter route through Laredo. The road crossed San Pedro Creek at Military Plaza. Once across the creek, the route followed the creek's west bank southward and then headed southwest more or less directly to Laredo and from there into central Mexico. A second freighting road began at San Pedro Creek and went west to Chihuahua. The part of the route that followed along the creek became known as Laredo Street, and the residential and commercial area that developed along Laredo Street was called Laredito. In the mid-to-late 19th century Laredito served as a campground and staging area for freighters hauling agricultural products and some finished goods to northern Mexico. The teamsters often returned with loads of silver.

With the onset of the American Civil War in 1861, Laredito became a central export point for Southern cotton. From there, teamsters transported it to the mouth of the Rio Grande in Mexico, from which it was shipped to England. This system avoiding the U.S. federal blockade of the Gulf Coast.

During the last half of the 19th century, Laredo Street was lined with small adobe houses, and the street was popularly called *Los Adovitos* (the Little Adobes).

In addition to the small residences and the freighters' campgrounds, the area was also used extensively by South Texas ranchers. After the Civil War, area ranchers brought their cattle to the open land west of San Pedro Creek, gathered them into trail herds, and drove them to northern markets and railheads. Even after the trail drives ended with the arrival of the railroad in Texas in the early 1880s, ranchers still gathered their stock for shipment in pens west of the creek.

Many of the small vernacular houses that characterized the neighborhood remained standing until the early 1900s. These slowly disappeared as new commercial and industrial buildings were constructed, and the area transitioned away from the complex character of Laredito.

III. DOLOROSA ST. TO NUEVA ST. BRIDGES

BRIDGE PANEL 3.BR: HISTORY OF DOLOROSA STREET/BRIDGE NAME

PANEL 3.1: SPCCP ECOLOGY ZONE 1: TOLERANT FISH

PANEL 3.2: SPCCP ENGINEERING DESIGN: LOW IMPACT DEVELOPMENT (LID) FEATURES

- PANEL 3.3–3.4: SPCCP MAP–TIMELINE HIGHLIGHTING NAVARRO, DE LA GARZA, AND RUIZ HOUSES AND SITUATING SIGNIFICANT HISTORICAL BEXAR EVENTS (INCLUDING REVOLUTIONARY BATTLES)
- PANEL 3.5: SPCCP ENGINEERING DESIGN: GATE AT NUEVA STREET [to be developed as part of Phase 1.3]

ADDITIONAL MOBILE APP/WEBSITE TOPIC: HISTORIC KITCHEN

GARDENS ALONG SAN PEDRO CREEK



Detail of Attachment 2

BRIDGE PANEL 3.BR: HISTORY OF DOLOROSA STREET/BRIDGE NAME

Dolorosa Street was named for the Via Dolorosa, the path in Jerusalem that tradition holds Jesus Christ followed on the way to his crucifixion. For countless years, this street has hosted the community's annual Good Friday Passion Procession, which culminates in a Passion Play on Main Plaza in front of San Fernando Cathedral.

[If space is available, the more recent, popular explanation for the name of the street can be mentioned: the suffering of women incarcerated at La Quinta (formerly located at the corner of Dwyer and Nueva streets) following the Battle of Medina.]



Looking south from Dolorosa Street bridge (by Toxey/McMillan Design Associates)

PANEL 3.1: SPCCP ECOLOGY ZONE 1: TOLERANT FISH

Urban industry, construction, transportation, and power plants all produce toxins that contaminate local waterways, here in San Pedro Creek as elsewhere. Additionally, water in shallow concrete channels undergoes greater variations in temperature and oxygen levels (due, in part, to a lack of aquatic plants and natural riffles, along with the decomposition of algae by aerobic bacteria). These are just a few factors that determine which fish species will find a home here in the most urban stretch of San Pedro Creek.

Farther downstream near the confluence of San Pedro Creek with the San Antonio River, fish benefit from varied banks of rock, soil, and groundcover; an undulating bed featuring gravel, sand, or other sedimentary layers; and rocks, logs, and tree roots that divert currents and offer shelter. Certain hardy species have evolved in ways that allow them to adapt and even thrive in the absence of these protective features. Exhibiting flexibility in the face of variable conditions of habitat and water quality, these are referred to as "tolerant" fish, meaning that compared to many other fish species, they can tolerate urban conditions: lower oxygen levels and nonpoint source pollution.

While tolerant fish populations expand opportunities for sport fishing, always obtain a license first and check the Texas Department of State Health Services (TDSHS) for Freshwater Consumption Advisories before preparing any local catches. Tolerant fish species found in the the urban, downtown portions of the San Pedro Creek Culture Park include:

Mexican Tetra *(Astyanax mexicanus):* This small fish has a blunt snout, an olive-green back blending to silver sides, and prominent black side stripes extending forward from a forked tail. It prefers shallow clear waters and may form dense schools.

Western Mosquitofish (Gambusia affinis): This small gray/brown/ olive fish has a prominent scale pattern, rounded tail, and upwardjutting mouth.

Sailfin Molly *(Poecilia latipinna):* This small fish has a light gray or greenish blue color with parallel rows of dark spots along its back and sides. Its prominent, translucent, tall dorsal fin is marked by spots and horizontal stripes, making it popular in the aquarium trade. In the wild, it is an important food source for larger fish and other aquatic wildlife species. It tolerates varying salinity, temperature, and oxygen levels. **Channel Catfish** *(Ictalurus punctatus):* Often growing over a foot in length, the large Channel Catfish is popular among anglers. It is gray and silver with a white belly and black spots on its sides (except on larger fish). It has a forked tail and long whisker-like barbels beside the mouth that contain copious taste buds for finding food. Able to tolerate turbid (cloudy) water, it can survive in urban environments, where it often feeds at night. Males guard the eggs and young.

Bluegill *(Lepomis macrochirus):* This medium-sized popular sport fish has a dark olive back, yellowish sides, and copper belly marked by dark vertical stripes that fade in adults. A member of the sunfish family, it can hybridize with other sunfish. It is a daytime feeder, whose nests are guarded by males.

Blue Tilapia *(Oreochromis aureus):* This medium-sized fish is pale blue-gray with a white belly. A pink or red margin outlines its tail (caudal) fin. The head of a breeding male exhibits metallic blue coloring, while a breeding female develops a pale orange edge on her dorsal fin. Blue Tilapia adapt to a wide range of salinity and temperatures, are considered invasive, and compete with native fish species for spawning space and food. To help minimize their colonization, government agencies require that anglers who catch this species not release them back into the wild.



Bluegill (by San Antonio River Authority)

PANEL 3.2: SPCCP ENGINEERING DESIGN: LOW IMPACT DEVELOPMENT (LID) FEATURES

San Pedro Creek's location within an urban environment makes it susceptible to contamination by the pollutants found on and carried by city streets. This includes trash, debris, and hydrocarbons, the latter being byproducts of our petroleum-based automobile society. To reduce impacts to the creek from storm runoff and the pollutants it carries, SARA engineers integrated innovative solutions into the design of the San Pedro Creek Culture Park. Generally called Low Impact Development (LID) features, they include bioswales, bioretention cells, and overflow grates. Unfortunately, not all contaminates can be removed before stormwater enters the San Pedro Creek. In particular, some storm drain outfalls and water from upstream do not enter the creek via these LID features.

The San Antonio River Authority is working with landowners upstream to implement measures to prevent pollutants from entering the creek, such as the reduction of impervious cover. In the meantime, shallow wading only is allowed in the Plaza de Fundación. Additionally, during rainfall events of at least a quarter of an inch, water flow into the Plaza is suspended and E. coli levels are monitored. This risk is low, however, and the successful efforts of the project engineers to maintain a clean environment are evidenced by the park's clear water and abundant wildlife.

Bioswales are linear landscaping features designed to intercept pollutants from stormwater runoff, removing them before the water enters the creek. They are located along the creek-side of streets and parking lots bordering the San Pedro Creek Culture Park. To the casual passerby, these features simply appear to be well-manicured plantings.

To enter the bioswales, rainwater runoff passes through cuts in the curbs and then passes through a series of layered gravel, soil, and sand that all act as filters. Larger debris is captured on the surface by plants, where it is periodically removed. The filtered water follows a gentle slope toward the creek.

Before entering the creek, the runoff is subjected to yet another filtration process. **Bioretention cells**, similar to bioswales, absorb water like a sponge. These cells also contain layers of gravel, soils, and sand resting on a bed of clay. They filter water that emerges from the bioswales and also stormwater that flows directly from adjoining hardscapes. The filtered water then enters pipes that discharge it beneath the surface of the creek. Bioswales and bioretention cells are slow-filtration systems designed specifically to improve water quality of the "first flush"—the dirtiest stormwater runoff. For larger storms, the bioswales and bioretention features are complemented by **overflow grates**. Although not as efficient as the other methods at removing fine-grained pollutants, the grates capture larger trash and debris before it can enter the creek while preventing stormwater from eroding the banks during a robust shower.

Together, these nature-mimicking filtration systems enhance visitors' experiences by helping to turn what once was a contaminated drainage ditch into a lush linear park featuring a creek with polished water.



Diagram of bioswales (by San Antonio River Authority)

PANEL 3.3–3.4: SPCCP MAP–TIMELINE HIGHLIGHTING NAVARRO, DE LA GARZA, AND RUIZ HOUSES AND SITUATING SIGNIFICANT HISTORICAL BEXAR EVENTS (INCLUDING REVOLUTIONARY BATTLES)

This double-length panel presents a map and timeline of San Pedro Creek, noting significant historical events and locations. The intent of the panel is to provide both geographic and chronological orientation to park visitors. To accomplish this, timeline information will be overlaid onto a map of San Pedro Creek.

For a county-wide perspective, seminal Bexar County events (and their locations) will be provided for reference. Space and graphic design will provide limits to the amount of contextual information to include in the timeline. Dates of the community's founding, the arrival of Canary Islanders, the development of the missions, and the five Texas revolutionary battles fought on Bexar soil are among the most important events to include.

The proximity of this panel to two of the few colonial-era buildings remaining along San Pedro Creek (and the site of a 3rd home), which also happened to belong to notable citizens (namely, José Antonio Navarro, José Francisco Ruiz, and Melchor de la Garza) provides an opportunity to highlight these structures, their owners' significant deeds, and the transitions that this neighborhood has experienced from colonial houses with large gardens, to more dense residential and retail buildings during the mid-19th century, to light manufacturing and warehouse structures in the mid-20th and, more recently, to governmental facilities.

Perhaps the second oldest residential building in downtown San Antonio, after the 1746 Commandancía, is the Melchor de la Garza house, built in the last quarter of the 18th century. It is located a short distance from Military Plaza across San Pedro Creek on Laredo Street. After serving as a family dwelling, the one-story, caliche-block salt-box structure provided service over the years as a military headquarters, coffee shop, brothel, and office space. It is the only remaining example of the type of houses that once ringed the plazas.

Also facing Laredo Street and originally backing up to San Pedro Creek is a compound today known as the Casa Navarro State Historic Site. José Antonio Navarro bought the property in the 1830s where he built a small dwelling and outside kitchen. In the 1850s Navarro built a twostory office and store on the property. Restored in the 1960s by the San Antonio Conservation Society, the compound was listed on the National



Casa Navarro site from W. Nueva street (by Toxey/McMillan Design Associates)

Register of Historic Places in 1972 and as a National Historic Landmark in 2017.

While no longer near San Pedro Creek, the José Francisco Ruiz house was moved from its original location on the south side of Military Plaza just east of the creek to the grounds of the Witte Museum in the 1940s. This caliche-block building housed the first school in San Antonio in 1803. Along with three other historic structures on the Witte campus, the Ruiz house continues to serve the entire San Antonio community as a historical, educational resource.

PANEL 3.5: SPCCP ENGINEERING DESIGN: GATE AT NUEVA STREET /to be developed as part of Phase 1.3

Three gates have been installed along the San Pedro Creek Culture Park: one near Travis Street, the second one at Nueva Street, and the third located farther downstream at Alamo Street. During normal conditions, gates are fully upright and water flows over the top, creating an appealing waterfall with the beneficial effect of aerating the water to improve water quality. Unlike the flood gates on the San Antonio River, the purpose of these gates is not to hold back floodwaters. In fact, during flood events the gates are lowered to permit unimpeded flow. Automatic sensors react to rising water levels and lower the gate accordingly. Each gate is controlled by a single hydraulic cylinder. Located nearby are gatehouses containing the operational machinery. Within these buildings are also housed the irrigation pump system. Water for all landscaping along the San Pedro Creek Culture Park is drawn from the creek.

The primary purpose of the gates is aesthetic. In addition to creating waterfalls that aerate the water for improved water quality, they impound water upstream. This widens the creek, giving it a more ample appearance and providing greater habitat opportunities for wildlife. The Travis Street gate impounds 1.26 acres of water; the Nueva Street gate impounds 1.23 acres of water; and the Alamo Street gate impounds 1.55 acres of water.

The Travis Street gate house pays homage to Bigclaw Shrimp with its shape and segmented shrimp-like wall panels. The presence of these freshwater crustaceans which once inhabited the San Pedro Creek is evidenced by the street that borders the east side of the creek, Camaron, which is Spanish for shrimp.



SPCCP impounding gate (center left) with simulated acequia (far left) and Bigclaw Shrimp-inspired gate house (right) next to the Travis Street bridge (by Toxey/McMillan Design Associates)

ADDITIONAL MOBILE APP/WEBSITE TOPIC: HISTORIC KITCHEN GARDENS ALONG SAN PEDRO CREEK

In the late 18th century and early 19th century, the earliest residents settling along both sides of San Pedro Creek built houses facing side streets and backing up to the creek. They invariably had large gardens reaching down to the creek for access to water. Vegetable gardens, herb gardens, and fruit trees lined the banks of the creek.

In the second half of the 19th century, a neighborhood west of the creek grew quickly. Known as Laredito, it was San Antonio's original "West Side." With easy access to Military Plaza and the marketplace there, this neighborhood housed many of the market's produce sellers as well as the the Chili Queens and their families—who served homemade, northern-Mexico and indigenous-inspired cuisine to customers of all backgrounds at picnic tables set up in the plaza. The housing stock featured mostly hand-built jacales and adobe homes. As with the earlier settlers along the creek, many of these households had backyard gardens and often small corrals in which to keep a few animals.

Small-scale urban subsistence farmers fed their families and utilized any excess produce for trade or income. Along with butter, eggs, and poultry, the fruits of these local gardens were toted across the creek before dawn to sell from wagons and carts or from blankets spread on the ground at Military Plaza's highly trafficked open-air market. Customers included restaurant and hotel chefs, traveling merchants, personal chefs, laborers, and the general population of homeowners in the area.



Kitchen garden behind Casa Navarro State Historic Site (by Toxey/McMillan Design Associates)

The plants that grew in gardens along the creek and in Laredito include a wide array of fruit trees as well as corn, tomatoes, potatoes, peppers, INTERPRETIVE PLAN 55 onions, melons, squash, pumpkins, and beans. They also grew such herbs as cilantro, Mexican oregano, cumin, Mexican mint marigold *(yerbaniz)*, anise, marjoram, and several chile varieties. Native plants, for example, *agarita* (berries), purslane (greens), and prickly pear cactus (both pads and fruit) would also have been a common garden sight. While some varieties of chiles may be lost to history, others such as *poblano (ancho), chilaca (pasilla), guajillo,* and the wild *chile pequin* (tiny arrowhead-shaped chile rating high on the heat scale), trace their heritage through these formative periods of San Antonio cuisine.

Casa Navarro State Historic Site maintains a demonstration kitchen garden documenting this important feature that used to be a prevalent feature along San Pedro Creek.

San Pedro Creek Interpretive Plan Committee members further suggest the inclusion of recipes from these historic kitchens.

NOTE: During the final meeting of the San Pedro Creek Interpretive Plan Committee on February 20, 2020, while discussing this segment of the project from Dolorosa Street to Nueva Street, two attendees mentioned that the project design (which is not within the scope of this Interpretive Plan) should be modified to increase access to Casa Navarro from the SPCCP. Even though this National Historic Landmark and its location and relationship to the creek will be presented in the interpretive content for the park, they stated that its proximity to the SPCCP needs to be emphasized—since it is currently physically severed from the creek—so that park visitors may be enticed to include it on their itineraries. Currently, a county office building located on Nueva Street and the west side of the creek (on the former grounds and garden of Casa Navarro, which extended to the creek) blocks the visual and physical connection of this monument to San Pedro Creek. County officials say that this building will be torn down in the future, allowing direct access to be reestablished. Since these plans are not yet firm, the attendees expressed their desire that another design element be included within the current design of the park, such as a stairway (connecting the creek level with the street level) with a sign directing park visitors to Casa Navarro State Historic Site. This comment is being relayed to the design team.

ADDITIONAL NOTE: Referring to the previous **NOTE** on p. 42, the same meeting attendee also offered the design suggestion of including imprints of contemporary wildlife tracks within the pavement or stepping stones to excite and engage children. This idea was well received by the committee and is being relayed to the design team, since, again, it is beyond the scope of this Interpretive Plan.

IV. NUEVA ST. TO CHAVEZ ST. BRIDGES

BRIDGE PANEL 4.BR: HISTORY OF NUEVA STREET/BRIDGE NAME

- PANEL 4.1: PEOPLE OF SAN PEDRO CREEK
- PANEL 4.2: URBAN RENEWAL AND EXPANSION OF GOVERNMENT BUILDINGS
- PANEL 4.3: CATTLE GRAZING/SLAUGHTERING/SHIPPING
- PANEL 4.4: HISTORIC ENGINEERING EFFORTS ALONG SAN PEDRO CREEK
- PANEL 4.5: LATE 19TH TO EARLY 20TH-CENTURY INDUSTRY ALONG SAN PEDRO CREEK



Detail of Attachment 2

BRIDGE PANEL 4.BR: HISTORY OF NUEVA STREET/BRIDGE NAME

This street, one block south of Military and Main plazas, was the first "new" street developed beyond the plazas and was given that name in Spanish.



Looking southward at San Pedro Creek from the Nueva Street bridge, west of the Bexar County parking garage (by Toxey/McMillan Design Associates)

PANEL 4.1: PEOPLE OF SAN PEDRO CREEK

Descendants of early landholders along the west side of San Pedro Creek south of Dolorosa Street—including members of the Toscana, Hernández, and Morales families—still held property there when ca. 1849–1850 the city council declared that public lands in that area would be sold. Owners who could prove their titles had their property lines adjusted to accommodate surveyor François Giraud's proposed grid street pattern.

Many early claimants or their descendants—including José Antonio Navarro and his son and members of the Gutiérres, Rodríguez, Morales, and de la Zerda families—continued to reside or carry out business there amid the considerable growth that the neighborhood experienced in the 1850s. Newcomers at this time included community leaders and investors such as James M. Devine and Bryan Callaghan (both becoming mayors), Van Ness Wells, François Giraud, Jules Poinsard, Volney Howard, and Edward Dwyer.

Across the creek to the east, François Guilbeau and Thomas J. Devine, both wealthy residents, purchased and lived on land watered by both the creek and San Pedro Acequia. The adobe and stone houses built for and occupied by these individuals gradually gave way to commercial uses as San Antonio's business district expanded in the late 19th and early 20th centuries.

Neighborhood density increased with the construction of newer buildings, many of wood construction after the arrival of railroads to San Antonio in the late 19th century. The neighborhood south of the market and west of San Pedro Creek attracted saloons and merchants who presided over small shops. These merchants included newly arrived immigrants from Italy, China, and Mexico, as well as African American residents. By the early 1900s, this area had also become known as the city's "red light district," dominated by prostitution and gambling and sanctioned by city government.

Also prevalent were *corrales*—flimsy, multi-unit, wooden shacks with shared outdoor water plumbing facilities—where poor residents lived in substandard conditions. The mix of corrales, commercial structures, and some single family and duplex housing remained fairly constant until the early 1960s when most of the properties were acquired and demolished for redevelopment by the city's Urban Renewal Agency.

PANEL 4.2: URBAN RENEWAL AND EXPANSION OF GOVERNMENT BUILDINGS

After World War II and throughout the 1950s, a massive highway construction project produced great economic benefit to San Antonio and Bexar County but was extremely destructive, both physically and socially, to the communities it traversed. Much wider than conventional streets and often elevated, these limited-access concrete ribbons resulted not only in the demolition of many blocks of commercial and residential structures, but also in the disruption of historic street patterns. In San Antonio the earliest north-south expressway was constructed along (and over) most of San Pedro Creek.

Shortly after the expressway was completed, the city undertook the Central West Urban Renewal project in the 1960s. The federal Urban Renewal program proposed to reinvigorate areas that were seen as poverty stricken and depressed. In San Antonio the program resulted in the clearance of most of the structures, both residential and commercial, west of San Pedro Creek and south of Dolorosa Street to Guadalupe Street. Property was purchased or acquired through condemnation, streets were realigned, and land parcels packaged for redevelopment. In addition to the Central West project, the area north of Dolorosa was targeted by the Rosa Verde Urban Renewal Project. Beyond the expressway to the west, the Vista Verde North and Vista Verde South projects cleared most of the land as far as the Missouri Pacific railroad tracks.

By the late 1970s few traces remained of the area's early history. Buildings constructed on Urban Renewal parcels along the creek, both north and south of Dolorosa Street, ignored the historic waterway. These included the new Bexar County Jail, completed in 1962, San Antonio Police Headquarters, also built in the 1960s, and various commercial buildings, apartment houses and hotels, all of which faced surrounding streets.



Former Bexar County Jail, completed in 1962 as part of the Urban Renewal taking place west of San Pedro Creek (in the foreground) (by Toxey/McMillan Design Associates)

PANEL 4.3: CATTLE GRAZING/SLAUGHTERING/SHIPPING

From the time of the earliest Spanish settlements in the San Antonio River valley, cattle were a vital part of the region's economic and cultural systems. While the presidial soldiers and civilian artisans maintained a few head of livestock for milk and meat, the first actual herds were associated with the missions and the Canary Islanders. Surplus animals could be bartered or sold to the presidio and to citizens who needed them. Since the lands close to the San Antonio River and San Pedro Creek were irrigated for farming, cattle were grazed further from town. Since the missions had been granted most of the land south and east of the plazas, civilians grazed their cattle on the public lands west of the creek, after peace was made with the Apache nation in 1745.

Over the next hundred years as the population increased, so did ranching activity. The first attempt by city authorities to control the cattle business was to decree that slaughtering could be carried out only west of San Pedro Creek and east of the Acequia Madre on the east side of the San Antonio River. Meat, however, could be sold at markets anywhere in the town.

After the American Civil War, cattle operations on the west side of San Pedro Creek reached their highest level. The area became a natural staging ground for ranchers from all over south Texas to gather herds for cattle drives northward to the railheads in Kansas. This prosperous period for the west side of the creek lasted about 15 years, ending when the railroads arrived in San Antonio in the early 1880s: one located east of the river and another about a mile west of the creek.

Almost 20 years later, cattle gathering, sale, and shipping returned to San Pedro Creek, but this time it was a long distance south of the plazas, adjacent to multiple rail lines near the creek's confluence with Apache Creek. The sprawling cattle facility later became known as the Union Stock Yards.

PANEL 4.4: HISTORIC ENGINEERING EFFORTS ALONG SAN PEDRO CREEK

The first recorded engineering project involving San Pedro Creek was initiated soon after the Spanish founded the settlement in 1718, when the first residents constructed an acequia from San Pedro Creek, near its source, to the San Antonio River. As property use along the creek changed from agrarian to residential and industrial, it became increasingly more important to control the flood-prone waterway. The quest to prevent the death and destruction occasionally wrought by this customarily tranquil stream began in the eighteenth century and culminated in the 21st century with the San Pedro Creek Culture Park.



1861 City Ordinance addressing water quality in San Pedro Creek (by City of San Antonio Municipal Archives)

In 1861, the city council passed "An Ordinance to prevent obstructions in and inundations of the San Pedro Creek, to provide for the deepening and cleaning of the same and preventing the defiling of its waters." The intent of this ordinance was "to prevent the frequent inundations of the settlements on the margins of the San Pedro Creek, within the city limits, caused by encroachments, obstructions, and impediments to the free course of that stream such as walls, dams, water wheels and other edifices." The city engineer was tasked with identifying prohibited conditions for future remediation. He also determined areas of the creek to be widened to a uniform twelve-foot width and those parts of the creek to be deepened. This ordinance banned all future construction of any "edifice, wall, dam, water-power machinery or bathhouse," or the placement of "any obstruction of whatever description, in said stream or within three feet of its banks." It was further ordered that the creek be periodically dredged and cleaned, at least once per year.

In addition to flood concerns, the 1861 ordinance also addressed water quality: "That any person who shall defile the water of said creek by throwing therein or permitting to leak therein the filthy oozings from a brewery, soap factory, gas-factory, tan-yard [see image, below] or other factory or establishment; or, who shall throw or place, or cause to be thrown or placed, or permit to leak therein, any other filthy rubbish or liquid of an description calculated to render the water of said creek unfit for domestic purposes, shall on conviction before the mayor, be fined not less than one dollar nor more than twenty dollars."

In 1917 the creek was channeled into a narrow underground culvert during construction of the Missouri, Kansas, and Texas Railroad terminal. This constriction of the creek worsened flooding upstream.



North end of San Pedro Creek culvert, located under César Chávez Street bridge (by Toxey/McMillan Design Associates)

In 1919 flood prevention and health were addressed with an ordinance "Establishing channel of San Pedro Creek between certain limits and boundaries within the City of San Antonio, as shown by maps in the

Engineer's office, for the purpose of preventing the construction of buildings, structures or other obstructions within the channel of said creek and for the purpose of providing right-of-way to and from said creek in order that said creek may be cleaned and the waters and banks thereof kept free from drift, refuse and other objectionable matter, and also for the purpose of building retaining walls and levies for the prevention of floods." Covering a section of the creek, construction was prohibited within a 60-foot-wide right of way.

The catastrophic flood of September 1921 was a turning point in the city's long-suffering efforts to tame local waterways. Construction of the Olmos Dam soon followed. Unfortunately, this project did not address the Westside creeks (among which San Pedro Creek numbers), where 47 of the 51 confirmed deaths occurred during the 1921 flood event. While downtown San Antonio was protected from future calamity, little was done to protect the residents living near San Pedro Creek. Ironically, in 1924 the city did pass a resolution authorizing the purchase of 25 magnolia trees to be planted along the San Pedro Creek Parkway.

During the Great Depression, efforts were made to prevent floodwater from breaching the creek's banks by straightening its course and building channel walls of stone and concrete. This process of transforming San Pedro Creek from a natural waterway into a manmade drainage ditch continued through the following decades.

Despite the engineering efforts of the previous 100-plus years to control the creek and prevent it from flooding, during the 1950s flooding was as much a concern as ever. With increased urbanization, more needed to be done to prevent flooding—not only because there were more people in danger, but also because the addition of impervious hardscaping increased the runoff of rainwater entering the creek. In 1951 the San Antonio River Channel Improvement Project was adopted. In addition to the San Antonio River, this project also addressed San Pedro Creek, whose channel the **U.S. Army Corps of Engineers** further widened, deepened, and straightened. This project culminated with the most ambitious flood control strategy to date: the San Pedro Creek Flood Bypass Tunnel, completed in 1991.

For over 200 years, the city approached the problem of San Pedro Creek's flooding by channelizing the waters. The flood tunnel, however, created a bypass for flood waters without further altering the creek bed. Not only does this feature protect the urban center from flooding, but it also store water for reintroduction into the creek during periods of dry weather. This attribute made possible the San Pedro Creek Culture Park.

PANEL 4.5: LATE 19TH TO EARLY 20TH-CENTURY INDUSTRY ALONG SAN PEDRO CREEK

Among the mid-19th century influx of German and other northern European immigrants to San Antonio were many industrial entrepreneurs. Using water in their manufacture and as a source of power, they set up mills and other operations along San Pedro Creek and the San Antonio River. The San Pedro Creek industries were concentrated between Martin Street and Dolorosa Street. They included soapworks, candle production, vinegar production, ice production, several breweries, and gas manufacturing for power.

The US Civil War and Reconstruction of the 1860s depressed these early industrial endeavors, as well as commercial activity throughout the city. It took railroad construction, which began to arrive in San Antonio in the late 1870s, to engender a new industrial boom. One result of this boom and of the presence of railroads was a change in the character of neighborhoods along and near San Pedro Creek. Combined with population growth and the resulting expansion of the business district, the railroad dramatically changed old residential communities as new commercial buildings were built along Flores and Laredo streets both north and south of downtown as well as along Camaron Street north of the business district.

On Military Plaza small colonial and post-colonial structures were replaced by multi-story brick and stone buildings in the last decades of the 19th century. The Fashion Theater and Landa Brothers store were constructed on the creek's east bank adjoining the south side of the old Commandancía, which, beginning in the late 1890s, housed various small businesses including a feed store and a pawn shop. The produce and chili vendors who had occupied the plaza for many years were displaced by construction of the new City Hall and moved west of the creek near Milam Park in 1890. The new plaza, Hay Market Square, was officially designated as an outdoor produce market in 1893, and in 1899 the City Council approved architect Alfred Giles's plans for an elaborate municipal market house on the site.

South of the new market building along Laredo Street, also known as Los Adovitos (the Little Adobes), many of the small vernacular houses that characterized the neighborhood remained standing until the early 1900s. These slowly disappeared as new commercial and industrial buildings were constructed. Will and Emma Richter built their first bakery on Laredo Street near Fifth Street (later Durango, now Chávez) in 1887. Over thirty years later they built a new, modern plant between Laredo Street and San Pedro Creek, today occupied by Bill Miller Bar-B-Q. Spurred by the construction of the MKT Railroad in the mid-late 1910s at Durango (Chavez) Street and over San Pedro Creek, the 1920s witnessed considerable commercial development of the east side of San Pedro Creek between Military Plaza and the railroad terminus. Large, brick, commercial buildings infilled vacant lots and replaced small houses and stores. Some of the new, larger commercial establishments included wholesale grocers, Graham Paper Co., Aluminum Honeycomb Co., Thomas Co., and the Southwest Electrical Institute.



Industrial buildings, including Bill Miller Bar-B-Q complex, along San Pedro Creek and north of César Chávez Street (by Toxey/McMillan Design Associates)

V. CHAVEZ ST. BRIDGE TO EL PASO ST. [Phase 4, possibly no exposed creek]

BRIDGE PANEL 5.BR: HISTORY OF CHAVEZ STREET/BRIDGE NAME

- PANEL 5.1: MKT RAILROAD AND CULVERTING OF SAN PEDRO CREEK
- PANEL 5.2: INDUSTRIALIZATION SURROUNDING MKT RAILROAD AND SAN PEDRO CREEK
- PANEL 5.3: SPCCP ECOLOGY: NATIVE SHADE TREES
- PANEL 5.4: U.S. ARMY ARSENAL STORY
- PANEL 5.5: SPCCP ECOLOGY: NATIVE ORNAMENTAL TREES



Detail of Attachment 2

BRIDGE PANEL 5.BR: HISTORY OF CHAVEZ STREET/BRIDGE NAME

Originally designated as South Fifth Street on the first city plat in 1852, the name was changed to Durango when many of the streets on the Westside were renamed to San Pedro Creek Culture Park Interpretive Plan Committee the area's Spanish and Mexican heritage. Durango is a city and state in northern Mexico. The current name pays tribute to César Chávez, the labor organizer and leader.



North opening of San Pedro Creek culvert (by Toxey/McMillan Design Associates)

PANEL 5.1: MKT RAILROAD AND CULVERTING OF SAN PEDRO CREEK

Throughout the 1900s, the San Pedro Creek channel was modified as the result of increased flooding and construction of new rail lines and modern highways. The first major change took place when the Missouri, Kansas & Texas Railroad (known as the MKT or Katy) received approval in 1914 to construct passenger and freight terminals. The passenger depot was built close to downtown on a site that spanned San Pedro Creek, bounded by Durango (Chávez) and Arsenal streets on the north and south and Flores and Laredo streets on the east and west. Construction of the depot required enclosing the creek in an underground box culvert (see image on previous page). One of the results of this work, according to some critics, was increased upstream flooding. While the tracks and depot are long gone, the creek still flows through the culvert now located under hotel parking lots.

Completion of the rail yards and depot transformed the properties along the creek south of the terminal. Structures that had been built years earlier on what had been the town's Labores de Abajo (lower fields) were demolished and replaced by warehouses and light manufacturing facilities. Among the new businesses were Jenner Manufacturing Company, later Judson Candy Company, and Duerler Manufacturing Company on Camp Street.

PANEL 5.2: INDUSTRIALIZATION SURROUNDING MKT RAILROAD AND SAN PEDRO CREEK

The last major railroad to reach San Antonio was the Missouri, Kansas & Texas (the MKT or Katy), which arrived from San Marcos in 1901. The company's freight terminal was located near Nogalitos Street, on the east bank of San Pedro Creek below Rehmann Street opposite the stockyards, but its passenger terminal and rail yard were located closer to downtown and had a major effect on San Pedro Creek and the long-time residences and small shops along it. In 1914 city authorities approved locating the passenger depot and yard on land between Flores and Laredo streets south of Durango (Chávez). The creek, of course, ran down the middle of the site. The solution was to enclose the creek in an underground box culvert and build above it.

Completion of the MKT railyard and depot transformed the properties along the creek, especially south of the terminal. Structures that had been built years earlier on what had been the town's Labores de Abajo (lower fields) were demolished and replaced by warehouses and light manufacturing facilities connected to the main rail line by sidings. Soon, industrial buildings lined both sides of the creek and railroad. Among the businesses were Jenner Manufacturing Company, later Judson Candy Company, and Duerler Manufacturing Company, on Camp Street (today's Camp Street Lofts).



Industrialization surrounding San Pedro Creek following the arrival of the MKT Railroad (by Toxey/McMillan Design Associates)

PANEL 5.3: SPCCP ECOLOGY: NATIVE SHADE TREES

Have you ever found yourself hopping barefoot on a hot pool deck or beach in mid-summer, quickly seeking shade to stop the burning sensation? Shaded surface temperatures can differ from sunlit ones by as much as 20–40 degrees. Thanks to the combination of shade and evapotranspiration (moisture released from plants' leaves and the surrounding ground), shade trees also lower ambient air by about 10 degrees—often the difference between misery and comfort! A mid-day walk under the growing canopy along the San Pedro Creek Culture Park quickly exemplifies the value that shade trees bring to parks, yards, and urban corridors.

The San Antonio River Authority, along with Bexar County, the city of San Antonio, the San Antonio Water System (SAWS), the Edwards Aquifer Authority, and numerous local nonprofit groups, contributes time and resources to the preservation of existing green spaces and the expansion of shade-tree cover in the region. In addition to improving aesthetics, shade trees help purify the air, sequester greenhouse gases (carbon dioxide), and absorb as well as filter rainwater that would otherwise contribute to flooding. Collectively they help mitigate the urban heat-island effect, in which large, densely built-up cities with high populations and transportation activities generate and retain more heat (averaging 2–22 degrees more than outlying areas!).

Look for these native shade trees growing along the San Pedro Creek Culture Park, and consider giving one a home in your yard:

Pecan *(Carya illinoinensis):* This is the Texas state tree, which is capable of growing in all Texas counties. It prefers deep, fertile, well drained soil near creek or river bottoms. Reaching up to 120 feet in height, it is the tallest of the hickory trees. One of the last tree species to leaf out in the spring, its leaves consist of opposite pairs of lancet-shaped leaflets plus a terminal leaflet (usually 9–13 leaflets per leaf). Its nuts, which mature in the fall, are rich in flavor as well as protein, monounsaturated fat, fiber, vitamins, minerals, and health-promoting phytonutrients (flavonoids). They were a staple food of local indigenous populations.

Texas Red Oak / Spanish Oak (Quercus buckleyi): In addition to being adaptable to alkaline limestone soil, this tree is also drought-tolerant. Its deeply lobed leaves that are widest at the tip turn bright red to maroon and brown in late fall. This colorful tree is one of the last to lose its leaves.

Chinquapin Oak *(Quercus muehlenbergii):* Like other oak trees, this one tolerates limestone soils. It has a distinctive oblong or oval-

shaped leaf with prominently toothed edges, and its wood is highly valued for barrels and fencing.



Chinquapin Oak (by Pennsylvania. Dept. of Forestry)

Cedar Elm/Fall Elm *(Ulmus crassifolia):* The Cedar Elm is the most common elm in Texas. It grows tall and has small, oval, finely-toothed leaves that often turn yellow-gold-orange in the fall.

American Sycamore *(Platanus occidentalis):* This native deciduous shade tree can be recognized by its massive trunk, exfoliating scaly bark leaving smooth white inner bark, large, broad leaves with pointed lobes, and globular fruits. It has the largest trunk diameter of all native U.S. hardwoods.

Bald Cypress (Taxodium distichum): This tall, deciduous conifer in the Redwood family has short, needle-shaped, light-green leaves and roots that begin above ground. It is found along or near riverbanks or swamps, with "knees" or root knobs that extend above water for oxygen. Because its wood resistant to decay, it is heavily logged. This tree was prized by indigenous populations for its bark (for ropemaking) and its wood (for shelters and canoes). It provides habitat to numerous wildlife species. [This species was previously pictured in the Phase 1.1 ecology panel.]

Sidenote: Along the San Antonio River south of Commerce Street, the Sniper's Cypress tree (also known as Geronimo) was the site of the assassination of Texan revolutionary Ben Milam.
Montezuma Cypress (Taxodium mucronatum): Fast-growing and closely related to the Bald Cypress, the Montezuma Cypress may be evergreen in this area. It is notable for its irregular, flat-topped crown and drooping branch tips and is famous for having the widest trunk in the world, found in the Tule Tree in Oaxaca, Mexico.

Live Oak *(Quercus virginiana):* This stately tree is distinguished by a stout trunk that can well exceed four feet in diameter. It supports multiple twisting or curving branches in its broad, arching canopy. The name derives from the fact that it stays green and keeps its leaves throughout fall and winter. Defined as semi-deciduous, it sheds its (still green) leaves in the spring followed by the blooming of male catkins and new leaf growth. Its wood was prized for shipbuilding and wagon wheels.

PANEL 5.4: U.S. ARMY ARSENAL STORY

Ever since the land around San Pedro Creek and the San Antonio River was settled by Spanish soldiers in 1718, the city that became San Antonio has had a special relationship with the military. As the major city in Texas, the Spanish and then the Mexican armies were headquartered here. Almost immediately after annexation, the U.S. Army leased the Alamo and used the old mission as a quartermaster depot. Other military functions were housed in various downtown buildings. In 1850 San Antonio was designated as the headquarters for the U.S. Army's Department of Texas. In 1859 the army bought 21 acres between San Pedro Creek and the San Antonio River and established the San Antonio Arsenal here to supply arms and ammunition to frontier posts and forts that protected settlers and travelers along the roads across West Texas.

Before the arsenal could be fully put in service, however, the Department of Texas surrendered it to Texas state troops at the beginning of the American Civil War. During the war, the arsenal supplied arms to support the Confederate war effort. After the war, federal troops completed construction of the arsenal and used it to supply the western forts.

During the 20th century, the arsenal served as a major supply facility during both world wars. In addition, it provided a center for young men to enroll in the various branches of the U.S. armed forces during these wars.

After it closed in 1949, some of its facilities were used by various civilian Federal agencies. In 1972 the city acquired a small part of the old arsenal for parkland. Finally in 1985, a 10-acre plot was sold to H-E-B. The local grocery company redeveloped the land, buildings, and adjacent tracts into its new headquarters.



U.S.Arsenal officers, San Antonio, Texas, 1894 (by William Creswell, Bremerton, Washington, USA)

PANEL 5.5: SPCCP ECOLOGY: NATIVE ORNAMENTAL TREES

San Antonio sits at a hub-like convergence of multiple Texan bioregions. Therefore, even urban parks like San Pedro Creek Culture Park can exhibit tremendous diversity in native vegetation. When it comes to trees, one finds multiple oak species from the Post Oak Savannah and Blackland Prairies to the northeast; Ashe juniper from the Edwards Plateau to the north and west; Honey mesquite, Palo verde, and Desert willow from the South Texas Plains/Brush Country to the south and southwest; and even native palms from the southeastern Gulf Coast prairies and marshes. Other trees, like the gracefully twisting, smooth-barked Texas persimmon and the waterloving, leaf-fluttering Cottonwood, are found more widely throughout the whole state.

The following native Texas trees bloom during varying seasons, ensuring year-round color and pollinator food sources along San Pedro Creek, whether staying bush-like as an understory tree or reaching high above for the sun.

Texas Redbud *(Cercis canadensis var. texensis):* A true herald of spring, this early bloomer's bare branches come alive with bright purple blossoms soon after the bluebonnets begin their annual show. Glossy, heart-shaped leaves add to the ornamental value of these drought-tolerant trees.

Desert Willow *(Chilopsis linearis):* This summer bloomer with pink-purple, funnel-shaped flowers with ruffled petals is not, in fact, a willow but is characterized by willow-like leaves. It is popular across the entire Southwest for its drought-tolerance.

Possumhaw *(Ilex decidua):* Bright red berries silhouetted against a backdrop of pale gray, narrow, horizontally spreading branches offers welcome color in the winter and food to birds and mammals alike. Its deciduous leaves are a glossy dark green color. Berries form on female plants only.

Eve's Necklace *(Styphnolobium affine):* Named for its short strings of bead-like seeds that bulge within black pods, this small tree has graceful leaflets and is draped with springtime clusters of fragrant white and rose-tinged flowers. Its flowers, recognizable as belonging to the pea family, attract bees and nectar-loving insects, but note that both flowers and seeds are poisonous to humans.

Prairie Flameleaf Sumac (Rhus lanceolata): Delicate small white summertime blossoms are frequented by butterflies and followed by

slightly flattened red berries that are eaten by birds and used by humans to make a vitamin-C-rich tea. Sporting dramatic red-orange fall foliage, it is often seen in thickets on limestone hillsides and fence lines.

Texas Mountain Laurel (Sophora secundiflora): This evergreen tree is a local favorite. Its compound leaves consist of 7–9 leathery, rounded leaflets. Showy bouquets of hanging purple blossoms with a grape-like fragrance perfume our springtime breezes. The fecund hanging pods add to this tree's beauty, but beware of the beautiful red seeds inside which are poisonous.



Texas Mountain Laurel (by BFS Man from Webster, TX, USA [CC BY 2.0])

VI. EL PASO TO GUADALUPE STREETS [Phase 4, possibly no exposed creek]

BRIDGE PANEL 6.BR: HISTORY OF EL PASO/ARSENAL STREET NAME

- PANEL 6.1: SAN PEDRO CREEK ECOLOGY: NATIVE REPTILES AND AMPHIBIANS
- PANEL 6.2: SAN PEDRO CREEK AND ACEQUIA SYSTEM
- PANEL 6.3: SAN PEDRO CREEK ECOLOGY: NATIVE SHRUBS, VINES, AND GROUND COVERS
- PANEL 6.4: HISTORY OF FLOODS AND CREEK CHANNELING + SAN PEDRO CREEK FLOOD CONTROL TUNNEL OUTLET



Detail of Attachment 2

BRIDGE PANEL 6.BR: HISTORY OF EL PASO/ARSENAL STREET NAME

Originally designated as South Eighth Street on the first city plat in 1852, the street was renamed El Paso when many of the streets on the Westside were renamed to recognize the area's Spanish and Mexican heritage.



Looking south on El Paso Street bridge (by Toxey/McMillan Design Associates)

PANEL 6.1: SPCCP ECOLOGY: NATIVE REPTILES AND AMPHIBIANS

The restorative transformation of San Pedro Creek has made it more hospitable to reptiles and amphibians in addition to other wildlife. Most commonly spotted is the non-venomous Diamondback Water Snake, and though the odds of an encounter with a venomous snake are extremely small, south central Texas residents include cottonmouths (also known as water moccasins), copperheads, coral snakes, and western diamondback rattlesnakes.

Reptiles and amphibians, along with fish, are ectothermic (coldblooded). In other words, their internal body temperature changes along with the ambient air or water temperature, unlike human blood, which is internally regulated to remain relatively constant. In colder months, you don't need to look far to find turtles sunning themselves on logs and rocks to warm their bodies. In more extended stretches of cold weather, snakes hibernate underground, fish seek warmer water, and frogs insulate themselves while waiting for the thawing return of warmer weather. Water frogs accomplish this by submerging in the muddy bottom of waterways or ponds, while tree frogs bury themselves in ground crevices where they sleep and, on occasion, partially freeze.

Reptiles and amphibians along San Pedro Creek include snakes, turtles, lizards, toads, and frogs. Look for the following reptile and amphibian species known to reside in the San Pedro Creek Culture Park.

Diamondback Water Snake *(Nerodia rhombifer):* These long snakes are often seen sunning themselves on rocks along the creek or swimming in the water. Their dark brown skin has a black or olive chain- or net-like pattern around light brown diamond patches above a pale yellow underside. Though sometimes mistaken for cottonmouths, they are not venomous and feed on fish. The best way to tell the difference is by the shape of the snake's pupil, which is round in the water snake and vertical in pit vipers, like the cottonmouth.

Spiny Softshell Turtle (Apalone spinifera): This turtle has an elongated, narrow nose and a smooth, solidly colored, leather-like shell. The name "spiny" refers to cone-like projections along the front edge of males' shells. [This species was previously pictured in the Phase 1.1 ecology panel.]

Red-eared Slider *(Trachemys scripta elegans):* Recognizable by small red stripes near the ears, this turtle was named for its tendency to slide quickly into water off logs or rocks. Its shell

exhibits noticeable light green, olive green, dark brown, and/or thin yellow markings.

Green Anole Lizard/Carolina Anole (Anolis carolinensis): Native to Texas and the southeastern U.S., this beneficial insectivore is bright green in color and can change to brown and shades in between in order to camouflage itself. The dewlap (throat flap) on males is pink and expands to defend territory or engage in courtship. Adhesive pads on its toes allow for adept climbing.

Green Tree Frog *(Hyla cinerea):* Despite its name, this nocturnal insectivore is found near water more often than in trees, preferring habitats with floating vegetation, tall grasses, and aquatic plants. The nocturnal calling sound made by breeding males during wet season resembles loud honking or barking.



Green Tree Frog (by U.S. Fish and Wildlife Service Headquarters)

Northern Cricket Frog (Acris crepitans): The sound this frog makes resembles two pebbles being clicked together, slowly at first but increasing in frequency. It is one of North America's smallest vertebrates, measuring around one inch. It may be seen hopping around gravel stream beds and banks in the spring. **Gulf Coast Toad** *(Bufo valliceps):* This toad is medium-sized (2–4" in length) and flat looking. Though its back may vary in color, it always has a single, pale stripe down the center valley between two crested ridges and a pale yellow or cream underside.

Rio Grande Leopard Frog (Rana berlandieri): Primarily aquatic and nocturnal, this local resident can be identified by an irregular pattern of dark spots on its smooth, tan-olive back and by the pale ridges extending back from its eyes. It lays egg masses in water, attached to vegetation.

PANEL 6.2: SAN PEDRO CREEK AND ACEQUIA SYSTEM

When the first Spanish settlers arrived at San Pedro Creek in 1718, they fully understood they could not depend on supplies being shipped from the distant agricultural lands of central Mexico and that they would be responsible for growing crops and raising cattle to feed the community. Therefore, even before constructing permanent buildings, they began to design and build an elaborate irrigation system to enable agriculture in this semi-arid area. This system, called an *acequia*, consisted of dams, gates, and canals. In addition to military and civilian acequias, these irrigation systems were built for each Spanish mission as soon as it was founded.

Evidence suggests that before the end of the first year of settlement, two acequias—both taking water from San Pedro Springs—had been completed. One flowed on the west side of San Pedro Creek to the first site of Mission San Antonio de Valero. The other provided water to the initial site of the presidio of San Antonio de Béxar and the associated town on the east side of the creek. During the next few years, the sites of these establishments proved unsatisfactory. The mission moved to the east side of the San Antonio River, and the presidio and town moved south to today's Military Plaza. At that time, the acequia west of San Pedro Creek was abandoned, and a new system, called the Acequia Madre, was created on the east side of the river to serve the mission in its final location.

When the Canary Islanders arrived in 1731, the acequia that served the presidio, known as the Acequia Principal or San Pedro Acequia, was extended south to return to the river near its confluence with San Pedro Creek. This extension was used to irrigate about 400 acres of farmland for the new settlers. A short portion of this ditch is visible today at the U. S. Army Arsenal (now the headquarters of H-E-B grocery stores).

At least one other acequia is known to have tapped San Pedro Creek. Called the Alazán Ditch, it flowed west and south of the creek to irrigate about 6,000 acres on the west side of San Antonio. Unfortunately, however, it was poorly designed and never worked properly. It operated for only a couple of years in the mid-1870s. After the City of San Antonio adopted a formal waterworks system in 1878, it began closing the acequias and filling the old channels. Finally, with the closure of the San Pedro Acequia in September 1912, this ingenious system of irrigation ended after almost 200 years of operation.

PANEL 6.3: SPCCP ECOLOGY: NATIVE SHRUBS, VINES, AND GROUND COVERS

Shrubs and ground-cover plants provide flowers to pollinators and berries that serve as essential wildlife food sources. Landscape architects on the San Pedro Creek Culture Park project practiced "companion planting." This term refers to placing different plants next to each other, which symbiotically improves each other's growth and/or protects each other from pests and predators. This concept was also practiced vertically here by stacking ground-level plants next to shrubs, next to understory trees, and finally next to upper canopy trees.

Mulch and ground covers offer the following additional benefits to the banks of San Pedro Creek. They shade the ground, thereby boosting soil moisture retention; they preserve soil texture by preventing soil compaction; they prevent erosion with the growth of roots and associated fungi; and they decompose into organic matter that feeds beneficial microorganisms.

As you walk along the paseos, can you identify the following native shrubs, vines, and ground covers?

Pigeonberry *(Rivina humilis):* This is a small (less than one foot tall) perennial shrub covered with wavy-toothed, dark green leaves that grows in full to partial shade. Its flower spikes produce delicate white-pink blossoms followed by scarlet berries that are often present at the same time.



Pigeonberry (by Renjusplace)

American Beautyberry *(Callicarpa americana):* This stunning, mid-level to tall shrub has gracefully arching branches that put forth delicate, pink blossoms followed by glossy berries that ripen over the summer into a bright purple. The berries feed many bird species including the northern mockingbird.

Texas Sage / Cenizo (Leucophyllum frutescens): This compact shrub usually grows 2–8 feet tall and is densely covered with small, silvery, gray-green leaves. When planted in full sun, it responds to summer and fall rains with vibrant displays of small flowers ranging from violet purple to pink. Texas sage is particularly valued for its high drought tolerance.

Wax Myrtle *(Morella cerifera):* Wax myrtle is a 6–12 feet tall shrub, whose slender, evergreen, olive-colored leaves give off a spicy, bayberry scent, complemented by pale blue berries in winter (associated with female plants). As an added bonus, its root nodules host nitrogen-fixing bacteria.

Autumn Sage (Salvia greggii): This low, compact shrub, grows in a mound shape and flowers in a wide variety of colors. It is known for attracting hummingbirds and bees.

Carolina Jessamine *(Gelsemium sempervirens):* This is a high climbing, evergreen vine that grows up trees, fences, and trellises and displays waxy yellow trumpet or star-shaped blossoms. Though beautiful, all parts of the plant are toxic to people and livestock.

Silver Ponyfoot *(Dichondra argentea):* This trailing perennial ground cover has striking, silvery gray, evergreen foliage. It spreads quickly in full sun to form dense mats that aid in erosion control.

Frogfruit *(Phyla nodiflora):* This is a rambling, low-lying ground cover whose white flowers' nectar is popular with butterflies. It adapts to a wide range of soils and sunlight (or shade coverage).

PANEL 6.4: HISTORY OF FLOODS AND CREEK CHANNELING + SAN PEDRO CREEK FLOOD CONTROL TUNNEL OUTLET

The San Antonio River and its tributaries—which include San Pedro Creek—have experienced devastating floods throughout the city's history. Major flooding in 1819, 1868, and 1913 caused extensive property damage and loss of life. The situation worsened in 1917 when San Pedro Creek was channeled into an overly narrow underground culvert to accommodate construction of a passenger terminal for the Missouri, Kansas & Texas Railroad. A particularly devastating flood in 1921 killed 51 people.

Early efforts to mitigate flood-water damage surrounding San Pedro Creek included vegetation removal, channel straightening, and construction of small dams. Depression-era programs funded projects to straighten the creek and line its walls with stone and concrete. These efforts gradually transformed the creek from a natural waterway into a concrete drainage ditch, a process that continued into the 1940s when the channel was re-directed to facilitate highway construction.



End of culvert (by Toxey/McMillan Design Associates)

In the next decade, a U.S. Army Corps of Engineers report on urban flood control in the San Antonio River basin recommended improving 31 miles of the San Antonio River and its creeks. Work to widen, deepen, and straighten San Pedro Creek south of downtown was funded by federal and local governments and completed in the mid-1970s.

By the late 1900s, the San Antonio River Authority and U.S. Army Corps of Engineers determined that the most efficient and affordable way to protect downtown San Antonio from flooding would be to construct an underground bypass tunnel on the San Antonio River and on San Pedro Creek. The San Pedro Creek tunnel was begun in 1987 and completed in 1991. In times of deluge, raging waters enter the tunnel at the north end of the San Pedro Culture Park and fall 140 feet into a 24-foot-diameter tunnel, which carries them over a mile to an outlet at Guadalupe Street, south of downtown. Flood waters emerge into the surface channel that courses turbulently downstream to the creek's confluence with the San Antonio River.

VII. GUADALUPE ST. TO CAMP ST. BRIDGES

BRIDGE PANEL 7.BR: HISTORY OF GUADALUPE STREET/BRIDGE NAME

- PANEL 7.1: HISTORICAL RESIDENTIAL AND COMMERCIAL DEVELOPMENT ALONG SAN PEDRO CREEK AND FLORES STREET
- PANEL 7.2: SPCCP ECOLOGY: ZONE 2: INTERMEDIATE FISH
- PANEL 7.3: SPCCP ECOLOGY: AGAVES AND OTHER SUCCULENTS
- PANEL 7.4: SPCCP ENGINEERING: CDS[®] Systems for Trash Removal
- PANEL 7.5: SPCCP ECOLOGY: HISTORIC AQUATIC CREEK FAUNA AND THE RETURN OF NATIVE SHELLFISH AND CRUSTACEANS



Detail of Attachment 2

BRIDGE PANEL 7.BR: HISTORY OF GUADALUPE STREET/BRIDGE NAME

Originally designated as South Ninth Street on the first city plat in 1852, the name was changed to Guadalupe when many of the streets on the Westside were renamed to recognize the area's Spanish and Mexican heritage. It was named in honor of Mexico's patron saint, Our Lady of Guadalupe.



Looking south on Guadalupe Street bridge (by Toxey/McMillan Design Associates)

PANEL 7.1: HISTORIC RESIDENTIAL AND COMMERCIAL DEVELOPMENT ALONG SAN PEDRO CREEK AND FLORES STREET

The land along the east side of San Pedro Creek immediately south of *Plaza de Armas* belonged to the *Barrio del Sur*, one of the geographic divisions of San Antonio de Béxar established by Governor Manuel Salcedo in the early 1800s. Properties located east of San Pedro Creek were valued not only for their access to the creek, but also for their access to the San Pedro Acequia and San Antonio River. Below the Barrio del Sur were the Labores de Abajo, land farmed by presidial soldiers in the 1720s before it was reallocated to Canary Islanders following their arrival in 1731.

At the north end of Barrio del Sur (near the plaza), small houses and businesses were built in the 1700s and early 1800s. Among the early settlers of this barrio was Vicente Travieso who arrived in 1731 from the Canary Islands. The Travieso family owned this land (where the Bexar County parking garage stands today) until the mid-19th century.

The Travieso family was also granted land in the Labores de Abajo, as were the Flores, Hernández, Chávez, and Pérez families, among others. Similar to town lots in Bario del Sur, these agricultural tracts had access to not only to San Pedro Creek and the San Pedro Acequia, but also ran all the way east to the San Antonio River, providing abundant water for household, garden, and crop irrigation purposes.



Bergara-Lecompte House, 149 Guadalupe Street (by Toxey/McMillan Design Associates)

The influx of new residents following Texas statehood in 1845 brought many changes to the area, including the sale of land by long-time property owners to newcomers from Europe and the United States. For example, in 1849 lawyer Thomas J. Devine built his new home facing Flores Street, situating it in the middle of large orchards and gardens. A short distance to the north, Frenchman François Guilbeau built his imposing house. It was also at this time that the United States Army Arsenal was constructed, beginning in the late 1850s, east of Flores Street and stretching from San Pedro Creek to the San Antonio River.

Augustus Koch's first bird's-eye-view map of San Antonio in 1873 documents many small stone or adobe houses lining Flores Street near Military Plaza, while to the south the land continues to be less densely developed. When Koch published his second map in 1886, the character of Flores Street near the plaza had changed. While many vernacular houses remained standing, they were surrounded by new construction, including a blacksmith shop and stock yard. South of the Arsenal, the area remained sparsely developed with scattered houses, large open lots, and agricultural land.

With the arrival of the first railroad in the late 1870s and additional rail lines in subsequent years, commercial and industrial buildings replaced both large and small residential structures, orchards, and gardens, displacing those who had lived and worked along the creek for generations.

PANEL 7.2: SPCCP ECOLOGY: ZONE 2: INTERMEDIATE FISH

"Intermediate fish" species can tolerate semi-urban conditions. They can survive some environmental stressors but remain more sensitive to pollution and habitat degradation than do tolerant species (see p. 48). When biologists note the presence of intermediate fish species in certain sections of San Pedro Creek, they correlate their findings with water analysis data that typically show lower levels of chemical pollutants and more abundant in-stream vegetation than in the upper, more urban section of the creek.

Along the length of San Pedro Creek, this area may be considered a transitional zone between the channelized flood-control portion of the urban creek and the naturalized approach to its confluence with the San Antonio River.

Characteristic species of intermediate fish found in the San Pedro Creek Culture Park include:

Red Shiner *(Cyprinella lutrensis):* This small olive-green to silverblue fish has a white belly. Breeding males turn metallic blue with copper patches on their heads and fins (except dorsal). Red shiners can tolerate moderate pollution levels and are highly adaptable colonizers of new areas.

Yellow Bullhead *(Ameiurus natalis):* This medium-sized catfish, when compared to the Channel Catfish, has a more olive-colored back with yellow-green sides and a rounded tail. Sharp spines on its dorsal and pectoral fins can poke anglers. Instead of scales, its body is covered with taste buds, giving it an acute sense of smell for finding food.



Yellow Bullhead (by Duane Raver, U.S. Fish and Wildlife Service)

Largemouth Bass (Micropterus salmoides): This most popular sport fish species in Texas is mostly dark green with lighter sides and a white or gray belly. It often has a dark lateral band stripe. A wide lower jaw juts forward distinctively and the mouth extends back behind the eyes. This aggressive predator of insects, crawfish, frogs, and smaller fish needs well oxygenated water and is a good indicator of water quality.

Longear Sunfish *(Lepomis megalotis):* This small to medium-sized fish is oval in shape and relatively flat. Its olive-gray top half and blue-green speckled sides give way to a yellow-orange belly. A white margin surrounds its dark elongated gill, and light-green cheek stripes cross its copper face. It is often found near instream cover including submerged and overhanging vegetation.

Central Stoneroller (Campostoma anomalum): This small fish appears silver to light brown with dark spotted sides and a lighter colored belly. A bulbous snout juts forward above the mouth, whose flat, blade-like lower jaw is used to scrape algae and other plants from rocks and logs. It often swirls in schools while grazing along the bottom; however, it may be seen leaping from the water.

PANEL 7.3: SPCCP ECOLOGY: AGAVES AND OTHER SUCCULENTS

Succulents (from the Latin *sucus* meaning juice/sap/moisture) are plants that develop fleshy parts, often in their leaves or stems, that retain moisture in order to withstand arid climates, drought, and scarce water sources. Evolutionary adaptations also make use of dew and mist. Being a source of water and therefore attractive to thirsty animals, many species rely on spikes or needles for self-defense. With predictable summertime droughts and extended stretches of high temperatures, the San Pedro Creek drainage is a good match for succulents. While aloes and non-native tropical euphorbias cannot withstand our occasional freezes, native agaves and yuccas provide striking contrasts of form and color in xeriscapes (landscaping that needs no water besides natural precipitation). They also served many medicinal purposes in indigenous cultures.

About five yucca species and 16 agave species are thought to be native to Texas. Perhaps the most iconic is the large and dramatic century plant (or agave), whose life culminates in the emergence of its inflorescence—a flowering stalk, either singular (spicate) or branching (paniculate). A few species reproduce with offsets or offshoots (cloned babies that emerge at the base of a mother plant), but most rely on pollination, primarily by bats. In fact, the timing and pathways of the seasonal migrations of Lesser long-nosed bats in the U.S. Southwest and of Mexican long-nosed bats from Mexico into south and west Texas are intertwined with the climatic cycle of agave flowering.

Can you find examples of these succulents along the San Pedro Creek Culture Park?

American Century Plant *(Agave americana):* This plant is misleadingly named, since it has a lifespan of roughly only 10 years. At the end of its life, a bloom spike emerges from its gently wavy, pale blue-green foliage (with sharp tips) and grows up to 12–25 feet.

Twistleaf Yucca *(Yucca rupicola):* Under two feet tall, this low plant's green leaves start out straight but twist as they grow and are often outlined in white or red. In April to May, it puts forth a tall flower stalk reaching heights of over five feet and bearing white bell-shaped flowers. It is often found in stony fields, hillsides, and canyon areas.

Spanish Dagger (Yucca aloifolia): Growing 2–12 feet tall (either branching or not, this plant has long bayonet-shaped leaves featuring finely serrated margins and extremely sharp tips. Its springtime flower stalk produces a clump of downward hanging,

white-petaled flowers that may be eaten raw as a salad. Birds eat the fruit that follows, and indigenous peoples wove rope from the leaves' fibers.

Red Yucca *(Hesperaloe parviflora):* Misleadingly named, this plant is not a yucca, though it is related to yuccas within the larger Agavaceae botanical family. Growing 2–3 feet tall with arching, succulent, evergreen leaves, this plant shoots a tall (up to 5 feet) wand of tubular flowers in varying shades of coral pink (and less commonly yellow), which are attractive to hummingbirds.



Agave Century Plants (by Alberto Luis Nunes)

PANEL 7.4: SPCCP ENGINEERING: CDS[®] Systems for Trash Removal

The first line of defense between trash found on city streets and the San Pedro Creek is a series of Continuous Deflective Separation (CDS®) systems. Installed underground, these systems are contained within large concrete cylinders. Thirty-seven of these devices, ranging in size from four to fifteen feet in diameter, serve the San Pedro Creek Culture Park. Their sizes and locations are determined by the sizes and locations of storm sewers in the vicinity. The function of these contraptions is to capture trash and other pollutants before storm-sewer pipes can discharge them into the creek.

As water enters the CDS through storm-sewer inlets, a swirling motion forces sediment and debris to the bottom. The captured debris is periodically removed by the city's Transportation and Capital Improvements (TCI) department using vacuum-equipped vehicles.

Before the filtered water is released into the creek, it passes through one more trash-removal step: a smooth-surfaced, louvered screen, which is automatically cleaned by the force of the water, preventing it from becoming clogged. This reduces service compared to an ordinary screen or grate.

The CDS is accessed through manhole covers that are only distinguishable by the label "Contech Engineered Solutions." Can you find all 37 along the San Pedro Creek Culture Park paseos?



CDS system used in the SPCCP (by San Antonio River Authority)

PANEL 7.5: SPCCP ECOLOGY: HISTORIC AQUATIC CREEK FAUNA AND THE RETURN OF NATIVE SHELLFISH AND CRUSTACEANS

Habitat and water-quality improvements made to local stretches of the San Antonio River and San Pedro Creek have proved to be mutually beneficial as they merge to form a wildlife corridor that is now contiguous over many miles. As San Antonio River populations of aquatic species recover and grow, they become parent populations to generations found to be migrating upstream into San Pedro Creek and other promising new habitats.

One of the most studied groups of organisms in freshwater restoration projects across America is the freshwater mussel. Sometimes referred to as unionids (for their family classification, Unionidae), mussels boast great diversity in North America (roughly 300 documented species) and can live 5–100 years, usually in the same area. Consequently, they serve as an excellent indicator species for water quality. Like other bottom feeders, they accumulate toxins that can be measured and analyzed.

Mussels' fascinating life cycle unfolds before you in San Pedro Creek and involves a complex relationship with fish. Mussel larvae, called glochidia, are released by female mussels in such a manner that they make contact with a suitable host fish or else die. Once attached as a parasite (usually harmless) to the fish host's gills or fins, the glochidia mature for weeks or even months before dropping off as microscopic juveniles who must land in the right kind of habitat to survive. If these habitats or host fish species decline or disappear, reproduction ceases.

Benefits that mussels provide:

• Improved water quality

Like a vacuum cleaner, each mussel filters 10–18 gallons of water per day, removing algae, zooplankton, suspended particles, toxins, and even bacteria like *E. coli*. This, in turn, allows for greater sunlight penetration into the water.

• Increased habitat for small plants and wildlife

Groups of mussels live together in beds that also house a variety of small aquatic species. Additionally, once deceased, mussels' empty shells provide shelter for crawfish, snails, and plants, as well as nesting sites for fish



Asian Clam (by Björn, CC BY-SA 2.0)

Shellfish and crustaceans currently or historically found in San Pedro Creek:

Paper Pondshell Mussel (Utterbackia imbecillis): This mussel has a thin, oblong shell ranging up to 4 inches in length, and it serves as an important link in the aquatic food chain. The animal constantly filters water and sediment in order to feed on algae, decaying organic matter, and excess nutrients in water. While fairly tolerant, its ability to thrive declines with degraded water quality, making the presence of this species an indicator of habitat health.

Asian Clam (Corbicula fluminea): This small non-native bivalve exhibits a classic clamshell, usually light in color though it can be yellow or brown, and marked by distinct concentric ridges. The Asian Clam is a self-fertilizing species that rapidly reproduces but also serves as food source for native fish (such as Channel Catfish) and crawfish. Its potential to carry non-native diseases and parasites is not yet fully known. As a filter feeder, it removes particles from the water while nestled in sediment. In larger bodies of water, large groups of these clams can become invasive.

Fingernail Clam/Peaclam (Family Sphaeriidae): This tiny bivalve has a translucent, off-white to tan shell that resembles a human fingernail in shape and color. Unlike mussels with only posterior

teeth, this clam usually exhibits two lateral teeth on each valve. Groups of fingernail clams live among or on aquatic vegetation and serve as a valuable food source for fish.

Crawfish/Crayfish (Procambarus clarkii): These bottom feeders eat a wide variety of plant life and decomposing organic matter, including invertebrates. They prefer habitats of dense, tender vegetation, and they spawn in the fall with the return of predictable rains. Adults adapt to droughts by burrowing deep into mud (leading to their nickname, mudbugs).

Bigclaw River Shrimp *(Macrobrachium carcinus):* This potentially large (up to one-foot long!) crustacean was historically found in this and other local waterways. The nearby street name, Camaron, serves as a clue to the historical preponderance of shrimp in San Pedro Creek. Though not currently found here, its habitat ranges from the southern U.S. to Brazil. It can be commercially fished in larger bodies of water. Shrimp play an important part in freshwater ecology by feeding on algae and keeping toxic blooms in check. *[This species was previously pictured in the Phase 1.1 ecology panel.]*

VIII. CAMP ST. TO S. ALAMO ST. BRIDGES

BRIDGE PANEL 8.BR: HISTORY OF CAMP STREET/BRIDGE NAME

PANEL 8.1: CANDY PRODUCTION ALONG SAN PEDRO CREEK (AND RECENT PACE DEVELOPMENTS) PANEL 8.2: SPCCP ECOLOGY: NATIVE DRAGONFLIES AND DAMSELFLIES



Detail of Attachment 2

BRIDGE PANEL 8.BR: HISTORY OF CAMP STREET/BRIDGE NAME

Camp Street was created in 1890 when local residents convinced the city to widen the alleys on each side of the creek and erect a bridge. The new street connected Flores and Laredo streets.



Looking east from Camp Street bridge (by Toxey/McMillan Design Associates)

PANEL 8.1: CANDY PRODUCTION ALONG SAN PEDRO CREEK (and recent Pace developments)

Candy has been manufactured commercially in San Antonio at least since 1865 when G.A. Duerler began traveling through South Texas taking orders and returning home to make and ship his products to clients. Duerler's first, most popular candies were peppermint sticks and other hard candies. Eventually he and his family expanded to include over 300 different types of candy. In conjunction with candymaking, Duerler established a commercial pecan-shelling business that popularized the nut among cooks and consumers. As Duerler's business grew, he supplemented his original plant on Commerce Street with warehouses and shelling plants on the San Antonio and Aransas Pass and International and Great Northern railroad tracks near San Pedro Creek. The Duerler factory on Camp Street on the east bank of San Pedro Creek later became headquarters of Tobin Aerial Survey Company, and after its acquisition by arts patron Linda Pace was converted to residential lofts. Ruby City, a contemporary art gallery housing Pace's collection, stands just west of the old factory overlooking the creek.



Duerler factory on Camp Street, now the Camp Street Lofts (by Toxey/McMillan Design Associates) Ruby City (by Toxey/McMillan Design Associates)



Ruby City (by Toxey/McMillan Design Associates)



Judson's Candy Factory Lofts (by Toxey/McMillan Design Associates)

With the mechanization of pecan shelling, pecan candy—notably the praline—became popular. There are various theories about the history of the praline. Generally believed to have originated in Europe, one story maintains the praline originated in France and was brought to New Orleans by the Ursuline nuns who arrived in 1727. The sweet treat evolved from its European form—which was more like a bon bon with almonds—into a sugary candy incorporating pecans from trees native to the South. Other stories place the praline's origin in Texas.

Whatever the praline's origin, pecans shelled in San Antonio were the key ingredient in the popular candy manufactured by G.A. Duerler and other local companies. Jenner Manufacturing Company, later merging with Judson Candy Company (founded in 1899), constructed its building on South Flores Street adjacent to the MKT railroad tracts to facilitate delivery of raw materials. Judson was purchased in 1983 by Atkinson Candies and operated until 2011, when it closed due to the high cost of materials. Another prominent candy company, Segovia Mexican Candy Company, was established on the city's Westside in 1948. Founded by Rudolfo Segovia, Sr., the Segovia company became famous for its pralines, as well as pecan chewies, candy apples, peanut patties, and *leche quemada*. The closures of Segovia and Judson ended San Antonio's decades-long role as a center of pecan candy manufacturing.

PANEL 8.2: SPCCP ECOLOGY: NATIVE DRAGONFLIES AND DAMSELFLIES

Damselflies and dragonflies belong to the order Odonata. Odonates, prey chiefly on flying insects as adults and small aquatic crustaceans, worms, and insect larvae as nymphs (the aquatic larval stage of the insect during which time they rely on internal gills for breathing). Without them, mosquito and other biting insect populations would escalate, and native fish would lack a food source.

A few noticeable differences help distinguish the two suborders. Dragonflies and damselflies both have two pairs of wings, and damselflies at rest tend to hold their wings together in an upright position, while dragonflies' wings remain spread wide. The damselfly's two sets of wings appear equally narrow, whereas the hind wings on a dragonfly are broader than the front ones. Also, the wide-set eyes of a damselfly contrast with the more closely spaced dragonfly eyes, which often touch each other. Lastly, dragonflies' bodies tend to be slightly longer and thicker than those of damselflies.

Aquatic plants serve a crucial role in the damselfly/dragonfly life cycle. The adult females lay eggs near or in water. After hatching, the majority of the insect's life cycle is spent as a larval nymph in the water until it is time to leave its aquatic life behind and prepare for an extended metamorphosis into an adult insect capable of flying. Aquatic plants provide the structure upon which a nymph emerges from the water and becomes an adult. After following the stem out of the water, it uses the plant for both support and protection as it undergoes its transformation. Only after it is able to fly does its reproductive system mature in preparation for a short adult phase of life.

A wide range of colorful species makes odonates fun to study, but the casual observer may be mistaken if relying on color alone as an identification tool. Colors vary between males and females, as well as across maturity levels. Although many colors and metallic sheens are caused by pigments, others— especially blue—sometimes result from light waves bouncing off the geometrically shaped cuticles (outer layer of exoskeleton, which is a fibrous composite of many materials).

Look for the following species as they hover over San Pedro Creek, most abundantly in summer and early fall.



Familiar Bluet Damselfly (by Melissa McMasters, Memphis, TN, CC BY 2.0)

Damselflies

Familiar Bluet *(Enallagma civile):* The Familiar bluet has segment-forming black stripes across the width of its blue (male) or tan (female) abdomen as well as dorsal black stripe behind the head.

Double-striped Bluet *(Enallagma basidens):* This damselfly is similar to the Familiar bluet, but its shoulder stripe is divided in two by a thin blue stripe in males and a blue, green, or tan stripe in females.

Powdered Dancer *(Argia moesta):* This large damselfly takes on different appearances over time; the males of this species take on a powdery blue or ash-gray coloring on the upper thorax (behind the head) and abdomen tip, sometimes appearing almost completely white at full maturity. Females are mostly either blue or brown, but lack the black thorax stripes that males exhibit.

Dusky Dancer (*Argia translata*): This damselfly appears mostly black with violet-dark blue eyes. Mature males exhibit thin pale rings on abdomen segments and a powdery dusting of white or gray at the base of the thorax. Newly emerged males have black and light

blue or tan thoraxes. Females come in both light blue and tan forms, with black stripes on the tip of the abdomen.

Dragonflies

Spot-winged Glider *(Pantala hymenaea):* This dragonfly has mottled brown segments along its tapered abdomen; though hard to see, a round spot at the base of the hindwing helps with identification. This species prefers to fly almost continuously, perching only rarely in a vertical manner.

Wandering Glider *(Pantala flavescens):* This widespread dragonfly has a brown head with a golden yellow body and face, which in males takes on tinges of red over time. The thorax is generally unmarked and the wings clear. Black or brown horizontal stripes mark the wide abdomen, crossing a thinner mid-dorsal dark stripe down its length.

Common Green Darner *(Anax junius):* This dragonfly is indeed a common sighting (especially in the spring and fall), and all forms have a pale green thorax with a small black spot on the upper half of the face. The abdomen ranges in females from greenish brown to rust brown to red, and in males from blue (most common) to purple. Individuals may darken in color when exposed to cold temperatures. This species is one of only a few North American dragonflies that migrate.

IX. SOUTH ALAMO ST. TO CEVALLOS ST. BRIDGES

- BRIDGE PANEL 9.BR: HISTORY OF SOUTH ALAMO STREET/BRIDGE NAME
 - PANEL 9.1: SPCCP ENGINEERING: BASE STREAM FLOW AND AUGMENTED STREAM FLOW
 - PANEL 9.2: ARRIVAL OF THE SAP RAILROAD AND TRANSFORMATIONS TO SAN PEDRO CREEK AND FORMER LABORES
 - PANEL 9.3: SPCCP ECOLOGY: NATIVE PERENNIALS AND GRASSES
 - PANEL 9.4: HISTORY OF THE PECAN TREE ALONG SAN PEDRO CREEK (INDIGENOUS USES OF PECANS TO LARGE-SCALE CULTIVATION)
 - PANEL 9.5: PECAN SHELLERS' STRIKE: A SOCIAL AND INDUSTRIAL HISTORY



Detail of Attachment 2

BRIDGE PANEL 9.BR: HISTORY OF SOUTH ALAMO STREET/ BRIDGE NAME

This portion of the street was originally named Aransas for the San Antonio and Aransas Pass (SAP) Railroad, whose its freight yard and depot were located nearby. It was renamed and became an extension of Alamo Street after a new bridge was constructed across the San Antonio River in 1913. Alamo Street is the street that runs north-south across the plaza in front of the Alamo.



South Alamo Street bridge (by Toxey/McMillan Design Associates)
PANEL 9.1: SPCCP ENGINEERING: BASE STREAM FLOW AND AUGMENTED STREAM FLOW

Without intervention, the base stream-flow of the creek as it meanders through the San Pedro Creek Culture Park would be a meager 0–1 cfs (cubic feet per second). That is the base flow that you see see in this section of the park, continuing to the creek's confluence with Apache Creek, southwest of here. When the Spanish first found and named San Pedro Creek, however, its flow was much greater. That was before 1.5 million people depended upon the Edwards Aquifer for drinking water, and before farmers used another six times that amount in agriculture. The effect of this draw-down has been to lower the artesian pressure that pushes aquifer water to the surface at San Pedro Springs, drastically lowering the base stream-flow.

In order to turn this trickle into a body of water capable of sustaining a complex natural environment and providing a worthy destination for visitors in the upper and middle reaches of the park, engineers



Base stream flow South of Alamo Street bridge (by Toxey/McMillan Design Associates)

designed and implemented a managed water-flow strategy. This involves controlling upstream water flow, recirculating water from the creek channel, and introducing additional water from the San Antonio River.

Located at the north end of the San Pedro Creek Culture Park, the tunnel inlet receives all creek water from upstream (up to approximately an 80-year rain event, which will bypass the tunnel). The tunnel, therefore, threatened to shut off creek flow through the park. Engineers solved this problem by locating a recirculation pump station in the tunnel inlet shaft, which pumps water into the stream bed of the urban portion of the park. It goes back into the tunnel just north of the outlet.

To supplement water flow through the park, San Pedro Creek also acquires water from the San Antonio River. Pumps installed where the river flows beneath the Arsenal Street bridge deliver water via underground pipes to the San Pedro Creek Flood Control Tunnel at its outlet shaft near Guadalupe Street. This water then travels "upstream" within the tunnel to the inlet shaft, from which it is pumped into the creek at Plaza de Fundación. The San Antonio River

Authority obtained permission from the State of Texas through a bedand-banks permit to transfer annually up to 300 acre-feet, or nearly 98 million gallons, of water from the river to the creek. Technically, the River Authority is using wastewater that was treated by the San Antonio Water System and discharged into the San Antonio River as it flows through Brackenridge Park, once again, to augment stream flow through the city due to diminished artesian spring output.

By supplementing the natural creek flow with water pumped from the tunnel, engineers are capable of maintaining a constant flow of 7-10 cfs. This rate is consistent throughout the Culture Park, from Plaza de Fundación to the gate at Alamo Street. Past this point, water in the creek returns to its natural flow of 0-1 cfs on its final journey toward the San Antonio River.

PANEL 9.2: ARRIVAL OF THE SAP RAILROAD AND TRANSFORMATIONS TO SAN PEDRO CREEK AND FORMER LABORES

The San Antonio and Aransas Pass Railroad, popularly called the SAP, was chartered in 1884 and began operating in 1885. The railroad's leading promoter was Uriah Lott, and the board of directors included many prominent San Antonians. As its name indicates, the railroad, sometimes called the "Mission Route," was designed to fulfill Lott's long-held dream to connect San Antonio to the Gulf Coast. The SAP's passenger depot was built east San Pedro Creek at the southeast corner of South Flores and Aransas (now South Alamo) streets at the site of today's Salvation Army building. Its freight yards covered a large area between the station and the river to the east (formerly agricultural fields, *labores*, begun by Spanish and Mexican settlers) and Simpson Street (now Lone Star Boulevard) to the south. In its early years, the railroad connected San Antonio with Corpus Christi to the south and Kerrville to the north. Later extensions expanded its service area. After the railroad entered receivership in 1890, it was owned by B.F. Yoakum, and in 1892 it was acquired by its larger competitor, Southern Pacific. By 1934, after a series of legal rulings, most of its track had either been abandoned or was merged into the Texas and New Orleans Railroad. In 1961 the railroad merged once again into the Southern Pacific Company.



Railroad bridge crossing the creek between South Alamo Street bridge and Cevallos Street bridge (by Toxey/McMillan Design Associates)

The SAP tracks, together with those of its competitors—the Galveston, Harrisburg and San Antonio (later a part of the Southern Pacific) and the International and Great Northern Railroad (I&GN)—crossed San Pedro Creek south of the downtown area. These shipping lines changed the INTERPRETIVE PLAN 111 landscape along the creek, transforming the area from agricultural and small-scale residential (with large vegetable gardens) and commercial uses to include industrial enterprises dependent on rail. On the east side of the creek, companies such as Peden Iron and Steel Company built warehouses along the SAP sidings to facilitate shipping and receiving of products. Below Cevallos Street, the landscape along the east side of the creek changed dramatically in 1914 when the MKT acquired a large tract for its maintenance yard. This creek-side property was transformed again in the early 2000s by construction of KIPP Academy. On the west side of the creek, both the SAP and I&GN lines played a major role in the selection of land for the San Antonio Stock Yards (later called Union Stock Yards) in 1889.

Just as KIPP Academy now stands on the site of an outmoded, abandoned rail maintenance yard, numerous rail-related industrial buildings have been converted to residential use. Other warehouses have been demolished for construction of modern, apartments overlooking, and once again transforming, San Pedro Creek.

PANEL 9.3: SPCCP ECOLOGY: NATIVE PERENNIALS AND GRASSES

Multiple Texas bioregions reach into Bexar County like wedges of pie, each sharing a feature in common: the presence of native bunch-grass prairies. Here along San Pedro Creek, ecologists are reviving elements of this southernmost reach of the Great Plains. The ecological heritage of this vast swath running north-south through the center of the state was defined over tens of thousands of years by a renewing cycle of bison migration and wildfire.

Bison hooves aerated the soil, their manure enriched soil nutrients, and short bouts of intense grazing stimulated new plant growth. Myriad deep-rooted grasses and wildflowers took hold, and the ecosystem as a whole regenerated fertile topsoil. Swiftly moving grassfires periodically wiped out more invasive and sun-blocking species, balanced the acidity and mineral profile of the soil with an influx of ash, and spurred to life long-dormant seeds.

While urban corridors are clearly conducive to neither bison nor wildfire, and while the need for larger, contiguous, prairie-grass ecosystems on both public and private lands remains, small pockets of native grasses and wildflowers, such as that found here at the San Pedro Creek Culture Park, do make a difference. They stabilize and nourish the soil, filter the water, support urban wildlife, conserve seed diversity, expand educational opportunities, and help increase the resiliency of the entire San Antonio River watershed.

Native perennials and grasses that can be found here include the following (suggestion to include species located in the vicinity of the panel):

Perennial Flowers

Butterfly Milkweed/Butterflyweed (Asclepias tuberosa): Tidy clusters of bright star-shaped flowers, ranging from yellow to orange, perched atop dark-green, lance-shaped foliage, make this plant popular with butterflies and gardeners alike.

Turk's Cap (Malvaviscus arboreus var. drummondii):

Hummingbirds are drawn to this perennial, which spreads both widely and upward (4–6 feet on average) with bulbous shaped flowers of overlapping, intensely red (and occasionally pale pink or white) petals (thought to resemble a Turkish turban) punctuating the shade where it prefers to grow.



Butterfly Milkweed (San Antonio River Authority)

Mealy Blue Sage (Salvia farinacea): Blue-violet flowers grow in a whorl pattern up the spike of this meadow-loving sprawling wildflower, often seen in the Hill Country. The "mealy" name refers to the felt-like hairy whitish sepal (plant part that surrounds some flowers, often enclosing their base). Flowers bloom from spring through fall. [This species was previously pictured in the Phase 1.1 ecology panel.]

Cedar Sage (Salvia roemeriana): This shade-loving salvia grows 1–2 feet tall with scallop-shaped leaves and delicate tubular flowers, deep-red in color, projecting off of its thin stems. It is often found in rocky nooks on Texas Hill Country hillsides, where it benefits from leaf mulch of Ashe juniper stands.

Zexmenia (*Wedelia acapulcensis* var. *hispida*): This aster forms a small woody shrub with hairy stems, rough foliage, and small yellow daisy-like flowers (darker yellow at the center) from summer through frost. It serves as both a larval host and nectar food plant for butterflies.



Sideoats Grama (by USFWS Mountain-Prairie, Lacreek NWR)

Prairie Grasses

Sideoats Grama *(Bouteloua curtipendula):* This is the Texas State Grass, most easily identified by its rolled-oat-shaped spikelets that hang in a row from only one side of wiry its stem, turning from purplish green to tan over the course of the summer and producing seeds that attract birds. This grass mixes well with wildflowers and spreads vigorously after grazing.

Inland Sea Oats (Chasmanthium latifolium): Inland sea oats is a native shade-tolerant grass. Its narrow, blue-green leaves are reminiscent of bamboo, and its herringbone-patterned seed heads dangle from arched stems.

Gulf Muhly (Muhlenbergia capillaris): Upright bunches of this grass produce multi-branched, threadlike, feathery seed heads that turn alluring shades of pink and burgundy in the fall.

Lindheimer's Muhly (Muhlenbergia lindheimeri): Elegant, large, upright bunches of this grass with graceful variations in texture may be grown as single specimen plants. Along with many other plant species, this one was named for Ferdinand Jacob Lindheimer (1801– 1879) who settled in New Braunfels and was the first known, permanent-resident botanist in Texas.

Mexican Feather Grass *(Nassella tenuissima):* This grass's soft and wispy pale green leaves blow with the wind and glow in the sunlight. It is one of only a few plants to occur natively in both North America and South America with no natural habitats in between.

Eastern Gamagrass (*Tripsacum dactyloides*): Though growing only 2–3 feet high, this grass can spread into wide-arching bunches reaching diameters over 5 feet. Deer browse its yellow seeds.

Little Bluestem (Schizachyrium scoparium): This grass produces pale, blue-green stems in the spring growing up to 3 feet tall and transforming into radiant rusty red and tan colors in the fall.

PANEL 9.4: HISTORY OF THE PECAN TREE ALONG SAN PEDRO CREEK

The pecan (*Carya illinoinensis*) is the highest value, commercially grown tree nut native to the United States. While its natural range is the Mississippi River drainage from Illinois south to the Gulf of Mexico and west to the Edwards Plateau in Texas, indigenous people living in that area began trading the sweet, nutritious nuts with tribes along the East Coast long before the arrival of Europeans on the continent.

The tree also grows naturally along many of the rivers that flow into the Gulf of Mexico from South Texas and Northern Mexico. European



Pecan trees lining the San Antonio River (by Toxey/McMillan Design Associates)

immigrants planted pecan trees up the Atlantic coast to at least New York, but found it impossible to improve the native trees to produce larger, better tasting nuts. Meanwhile growers in the South experimented, generally unsuccessfully, with crossing and grafting to create a tree that would produce predictably large quantities of flavorful, thin-shelled nuts. Finally in the mid-1870s, a successful method was developed.

Native trees growing along the San Antonio River and all of its major tributaries—including San Pedro Creek—produced an important food and trade product for both the indigenous inhabitants and the newly arrived European settlers. Not until the 1880s, however, did it become practical to plant pecan orchards along the creek using improved and more predictable cultivars. Simultaneous with the arrival of good crops of pecan was the arrival of railroads that could export the crops to distant markets. Thousands of pounds of nuts were shipped out of San

Antonio over the newly arrived rail lines. The product was so lucrative that the city even paid individuals to collect the nuts for sale.

Beginning in the early 20th century, companies were founded in San Antonio to provide shelled nut meats to the expanding markets. Most of these firms were located on the Westside near the orchards along San Pedro Creek and also near a ready source of cheap labor: the overwhelming population of Mexican-heritage women, most of whom were refugees from the 1910 Mexican Revolution. After years of what the labor unions considered abuse, thousands of workers went on strike against the major pecan meat supplier in 1937. The strike ended as a victory for the workers, but within a few years the workers were mostly replaced by machinery.

Today large commercial orchards of improved pecan varieties are located all over the state, even along the upper Rio Grande in far West Texas. And it is still common to see people across San Antonio picking up pecans in public places every fall.

PANEL 9.5: PECAN SHELLERS' STRIKE: A SOCIAL AND INDUSTRIAL HISTORY

At the beginning of the 20th century, San Antonio (and in particular San Pedro Creek) became the center of the nation's pecan processing business. The pecan-lined creek was located amid the candy factories that used pecans in their production, the main shelling company, the shelling labor, and the rail lines that exported pecan meats and candies.

Even though cracking and shelling equipment became available in the mid-1920s, San Antonio pecan companies used hand labor for these operations because it was cheaper than buying and maintaining machinery. The major processor, the Southern Pecan Shelling Company, was located at 135 E. Cevallos Street, near San Pedro Creek. This company contracted with individuals to provide the buildings, utilities, and people to crack and shell nuts supplied by the company. Southern Pecan then bought the finished meats and distributed them around the country. This set-up isolated the company from labor problems. By the late 1930s, Southern Pecan contracted with some 400 shelling locations on the Westside that employed about 12,000 workers, who were paid a few cents for each pound processed. The work was hard and seasonal; the typical building was ill lit and poorly ventilated; and most of the workers were Mexican-origin women, most of whom were refugees from the Mexican Revolution.



Pecan Shellers' Strike, San Antonio, 1938 (San Antonio Light Photographic Collection, UTSA Special Collections, Institute of Texan Cultures)

In 1937 the workers could belong to two unions: a local one associated with the Communist Party and a CIO-affiliated union of cannery and packing-house workers. In late January 1938, Southern Pecan's contractors lowered the prices they paid their shellers by about 15%, and most of the workers went on strike. The local Communist union did not participate, but the CIO supported the strikers. The strikers asked the young San Antonio labor activist, Emma Tenayuca, to lead the strike. She agreed, even though she was a Communist and the local pro-Communist union did not support the strike. City police reacted with such antagonism against the strikers, from simple harassment and frivolous arrests to tear gas, that Texas Governor James Allred ordered a state commission to investigate civil liberties abuses. Meanwhile city and church leaders denounced the strike because Tenayuca, a Communist, was leading it. When other local unions also opposed the strike, the CIO removed Tenayuca as its leader.

After about three months, the strike was settled in the workers' favor, but it was a short lived victory. The application of federal minimum wage rules to the pecan shellers made it more economical for the companies to mechanize, and within a couple of years most of the workers lost their jobs.

X. CEVALLOS ST. BRIDGE TO I-35 OVERPASS

BRIDGE PANEL 10.BR: HISTORY OF CEVALLOS STREET/BRIDGE NAME

PANEL 10.1: SPCCP ECOLOGY: NATIVE POLLINATORS PANEL 10.2: LABORES DE ABAJO: BREAD BASKET OF BÉXAR PANEL 10.3: HIGHWAY CONSTRUCTION PANEL 10.4: SPC ECOLOGY: ZONE 3: NATIVE (INTOLERANT) FISH PANEL 10.5: UNION STOCKYARDS PANEL 10.6: SPCCP PROGRAM GOALS AND OVERVIEW



Detail of Attachment 2

BRIDGE PANEL 10.BR: HISTORY OF CEVALLOS STREET/BRIDGE NAME

Cevallos Street was named for a prominent family that owned much of the land in the area.



Cevallos Street bridge (by Toxey/McMillan Design Associates)

PANEL 10.1: SPCCP ECOLOGY: NATIVE POLLINATORS

Pollination refers to the transfer of pollen from one flower to another of the same species (except in cross-species hybridization). It constitutes the process of fertilization in many plants by which the production of fruit and seeds takes place. Pollen may be carried on the wind or manually applied by horticulturalists, but it mostly travels by means of insects, hummingbirds, and small mammals (for example, bats) who rely on flowers for food.

Bees pollinate the most plant species, including Texas bluebonnets *(Lupinus texensis)* and other spring wildflowers along San Pedro Creek. According to the USDA, one of every three bites of our food can be traced back to the work of bees. Approximately 80% of the world's crops depend on pollination, and in the U.S. economy natural pollination has been estimated to lead to around \$15 billion of products. Texas is home to over 800 species of native bees, amounting to one fifth of the 4,000 species found throughout North America.

Precipitous declines since the year 2000 of both native-bee and nonnative European honey-producing bee colonies have raised concern and made the planting of flowers and habitats that support native pollinators a priority among landscapers and gardeners. The causes of the crisis are multi-faceted and not fully understood, but scientists have identified harmful chemical insecticides and fungicides, viruses, and parasitic mites as contributors to the problem. Population fluctuations of both bees and butterflies also correlate with climate warming, which affects the timing of various life cycle phases and migrations, as well as metabolism during adult bees' diapause (insects' version of hibernation).

Along the entire length of the San Pedro Creek Culture Park, the reintroduction of native plants on the banks and native aquatic plantings in the stream makes this downtown habitat more welcoming to a variety of bees, including:

Metallic Sweat Bee *(Genus Agapostemon):* Native to the Texas plains, these bees are known for pollinating cotton. True to the name, most have metallic green or sometimes black, blue, or purple coloring on the thorax (upper body). Males have strong black and yellow striping on their abdomens. As the name implies, they are attracted to human sweat for the salt it contains, but they are usually more focused on nectar and pollen, which they carry back to their hives in special basket-like structures on the lower part of their hind legs. They do not typically become aggressive unless defending themselves from perceived danger.



Southern Carpenter Bee (by Bob Peterson, North Palm Beach, FL, CC BY-SA 2.0)

Southern Carpenter Bee *(Xylocopa micans):* This nectarivore is capable of pollinating a wide variety of plants due to the resonating vibration of its buzzing, which loosens tightly packed pollen that remains hidden to other species.

Other pollinators, like butterflies and moths, are not hard to spot along San Pedro Creek. They may be seen feeding on a wide variety of flowers (Gregg's mistflowers are among their favorites), tree sap, rotting fruit, or even mud puddles. Just as some plants depend on a single species of pollinator, many pollinators depend on specific species of plants for a place to lay eggs and/or for the particular kind of nectar, pollen, or leaves they provide.

Some butterflies are migratory and show up predictably around the same times of year, like the Monarch butterfly, which makes multigenerational trips through this region. The state of Texas looks like a funnel on the map of their flyway between the forested mountains of the Mexican state of Michoacán and the central, northern, and eastern United States. They depend at all times on closely spaced habitats, water sources, and the absence of poisonous chemicals. The smaller orange-brown American Snout butterflies are not migrators in the same way but may fill the sky as they take to the air en masse after late summer rains, following the emergence of their host, the Hackberry tree (plentiful in San Antonio), from drought-induced dormancy.

Female butterflies often remain near their larval host plants, upon whose leaves they lay their eggs. When caterpillars emerge from the eggs, they eat the leaves of species-specific plants in preparation for the pupa stage (marked by a chrysalis). While some of these plants appear to be nearly decimated by the caterpillars, renewed growth is spurred as the life cycle continues. Here are some butterfly and plant pairings you may notice along San Pedro Creek:

Monarch and Queen	butterflies : <i>Milkweeds</i>
Gu	If Fritillary : Passion Vines
Black	Swallowtail : Parsley family
Ce	raunus Blue : <i>Legumes</i>
P	ainted Lady : Thistles, Mallows
Fi	ery Skipper : Grasses
White Checker	red Skipper : <i>Mallows</i>

PANEL 10.2: LABORES DE ÁBAJO: BREAD BASKET OF BÉXAR

Land south of the presidio between San Pedro Creek and the San Antonio River was used for communal farming to support the Spanish colonial settlement during the 1720s. Presidial soldiers dug irrigation ditches and prepared and planted the fields (labores). But the soldiers did not hold title to the land, and when the Canary Islanders (Isleños) arrived in 1731, Captain Juan Antonio Pérez de Almazán assigned them land and water rights in the former communal area. The new arrivals immediately planted maize, melons, vegetables, and cotton. The assignment of land and water rights to the Isleños led to friction between them and earlier settlers that was ongoing for many years. Though some parcels in the Isleños' farms (Labores de los Isleños), later referred to as the Labores de Abajo, were sold by original grantees during the mid-1700s, the Isleños and their heirs continued to control most of the land and water. With the settlement's growth in the late 1700s, secularization of the missions, and construction of the Upper Labor acequia in 1776, additional irrigated farmland became available and was granted to non-Isleño residents.

While initially used for subsistence farming, the Labores de Abajo evolved into a market-based system that competed with the missions prior to their secularization. Agricultural profitability, and therefore the health of the local economy, was affected by weather conditions. Profitability was also impacted by the increase in agricultural production as a result of the newly opened farmlands.

Agriculture, together with ranching, continued to underpin Béxar's economy throughout the 1700s and much of the 1800s. As urban growth progressed in the mid-to-late 1800s, the old labores, once the source of the town's food supply, transitioned to commercial, industrial, and residential uses. By the early 1900s, railroads traversed the area, and houses, stock pens, stores, and small manufacturing enterprises covered the once fertile fields.

PANEL 10.3: HIGHWAY CONSTRUCTION

In the late 1940s, construction of San Antonio's first expressway began with a one-mile section of today's Interstate 10 from Mistletoe Ave. south to Culebra Road. It was extended in the early 1950s, first to Martin Street and then south of downtown. The elevated segment from Guadalupe Street to present-day I-10 West was completed by 1957.



I-10 Expressway viewed from Cevallos Street bridge (by Toxey/McMillan Design Associates)

Originally referred to as the Interregional Highway, it became known as the San Antonio Expressway. Initial right-of-way acquisition was financed by voter-approved bonds and carried out by the city.

Beginning in 1949 San Pedro Creek was reconfigured to accommodate expressway construction. Typical of highway construction through established neighborhoods, streets were cut off, and right-of-way was cleared by demolishing or moving houses. Highway construction was coordinated with flood control work along San Pedro Creek. Expressway construction necessitated moving the upper portion of San Pedro Creek and channeling the waterway through an open conduit that ran between the north- and south-bound lanes. The open channel was later enclosed when further highway construction took place. Near the confluence with Apache Creek, San Pedro Creek crosses under the expressway, again, and continues south to join the San Antonio River.

PANEL 10.4: SPC ECOLOGY: ZONE 3: NATIVE (INTOLERANT) FISH

In the context of the San Pedro Creek Park and the San Antonio River, from its headwaters to the southernmost mission, "intolerant" fish species are making a comeback. *(those considered most sensitive to human alteration of their environment)* These are native Texas fish that used to be more abundant prior to manipulations of water flow, river and creek beds, water quality, and ever-increasing development. Informed by ongoing feedback from scientists, cooperative efforts among state and local agencies (like the San Antonio River Authority, whose jurisdiction follows watersheds across county lines) increases the likelihood that these species will thrive and have a future here.

Guadalupe Bass (Micropterus treculii): The Guadalupe Bass is the State Fish of Texas and the only one among black-bass species (which includes Largemouth Bass and Spotted Bass) whose native habitat lies entirely within the state. Usually weighing less than 2 pounds, this fish is yellowish green in color all the way down to its white underside (its color extends lower down than on Spotted bass, for example). This coloring is punctuated by horizontal rows of vertical dark marks (not stripes). Unlike Largemouth Bass, the jaw hinge of the Guadalupe Bass does not extend beyond the back of the eye. It prefers flowing water to still and can be found in gravel riffles or hiding among cypress knees. The species was previously endangered by cross-breeding with stocked populations of non-native Smallmouth Bass.



Mimic Shiner (San Antonio River Authority)

Mimic Shiner *(Notropis volucellus):* Measuring up to two inches long, this small silvery minnow has a faint stripe down the side and is often seen in schools near the mid-level or surface of clear, slowflowing water amid aquatic vegetation and gravel beds. Shown to bioaccumulate mercury (pollution emitted chiefly by coal-fired power plants), Mimic Shiner population numbers can decline when mercury presence becomes excessive. This fish is similarly used as an indicator species for acidification due to its low tolerance of water acidity. It feeds primarily on tiny planktonic crustaceans.

PANEL 10.5: UNION STOCKYARDS

Cattle raising was the most important economic activity for residents of the missions and for civilian settlers after San Antonio de Béxar was founded in the early 18th century. Initially, herds were very small and provided milk, meat, leather, and tallow for local landowners. Surplus products were sold locally, particularly to the military. When the land west of San Pedro Creek became available for use after the 1745 peace treaty with the Apache was signed, citizens used this resource to graze, water, pen, and slaughter their cattle. This pattern continued until after the American Civil War.

In the late 1860s and 1870s, the rail heads in Kansas made it possible for South Texas ranchers to drive large herds north to take advantage of the much higher price their animals commanded in the Midwest and on the East Coast. The open land west of San Pedro Creek was used as a staging area to gather herds for these drives. This period ended when the railroad arrived in San Antonio in the late 1870s. In less than a decade, three major rail lines reached the city: the Galveston, Harrisburg and San Antonio, the International and Great Northern (I&GN), and the San Antonio and Aransas Pass railroads (SAP).

Area ranchers decided to take advantage of the three rail lines crossing San Pedro Creek at about the same point. At this critical crossroads, they established the San Antonio Stock Yards Company, later named the Union Stock Yards of San Antonio. They chose a site adjacent to the SAP and I&GN tracks near the confluences of Apache, Alazán, and San Pedro creeks. The stockyards and railroads remained the primary means of cattle sale and transport until the late 1930s when new highways and trucks became the preferred mode of shipping. A new headquarters building was built in 1939 and still stands.

Though construction of nearby streets and expressways facilitated truck transport, the stockyards remained the state's largest cattle market throughout the 1950s. By the end of the century, however, market changes caused the closure of the stockyards. Cattle pens and other facilities were demolished, and the remaining buildings now house commercial offices and warehouses.

PANEL 10.6: SPCCP PROGRAM GOALS AND OVERVIEW

"To fulfill our city's needs for flood control, to *acknowledge and honor history and community*, and to fulfill our soulful desire for that which is naturally *beautiful and restorative.*" —<u>www.spcculturepark.com</u>

San Pedro Creek emerges crystal clear from the Edwards Aquifer at San Pedro Springs and ends approximately five miles south at its confluence with the San Antonio River. The heart of a watershed draining over 45 fertile acres, this ecosystem has nourished human settlements for over 12,000 years. The fecundity of the soil depended in part on the natural cycle of flooding during annually recurring wet seasons. Prior to the early 20th century, floods easily inundated nearby homes and businesses, often accompanied by tragic loss of life. A century of flood-control interventions gradually transformed the picturesque creek with meandering course and tree-lined, grassy banks into a straightened, concrete-lined stormwater channel, unnoticed to the extent that blocks of the watercourse were even culverted.

Despite the many flood control efforts, continued development upstream meant that by the early 21st century, San Pedro Creek could not contain 100-year flood projections. The San Pedro Creek Culture Park represents the next and much-improved generation of flood control—one that functions on a variety of levels to bring revitalizing benefits to the broader community. By transforming a previously overlooked drainage ditch into a thriving contributor to the city's identity, the project improves public safety and health while simultaneously restoring natural assets, preserving cultural assets, and creating recreational assets for future generations through engineering, landscaping, public art, and interpretation.

A unique collaboration of three public partners—Bexar County (as project initiator and funder), the San Antonio River Authority, and the City of San Antonio—shaped by input from the San Pedro Creek Citizen Advisory Committee representing numerous local community entities, fine-tuned the visionary goals. Its success is first and foremost reflected in the removal of adjacent acreage from the 100-year flood plain (land having 1% chance of experiencing a rain event of that magnitude). This protects the safety and integrity of the city, and, on a more tangible level, embodies natural, historical, and cultural assets. Interpretation through location-specific public art installations, bilingual interpretive panels, a mobile app, and website resources underscores the common commitment to education and accessibility.

San Pedro Creek Culture Park not only expands recreational opportunities and moments of peace amidst the urban bustle, but it also tells an important story—one of resilience. In so doing, this beautiful, naturally and culturally rich linear park fills a previously missing piece in the overall fabric of our identity as a welcoming city. The accompanying billions of dollars of economic revitalization sparked by the project carries this story forward and helps bridge the divides it previously defined.



Completed Phase 1.2 of the San Pedro Creek Culture Park (by San Antonio River Authority)

MEDIA PLAN AND RECOMMENDATIONS

This interpretive plan will be used to guide the development and design of the media suggested below.

1. PUBLIC ART

The interpretive program for the SPCCP runs parallel with the San Pedro Creek Public Art program, and they share the goal of interpreting the creek and its history for pubic access and enjoyment. It is the intent of this plan to be used by the artists selected to produce location-specific installations in the park in order to help them define topics and locations for their pieces and to provide research background and resources for their chosen topics.

2. EXTERIOR INTERPRETIVE SIGN SERIES

We recommended developing approximately 47 interpretive panels between Houston Street Bridge and the southern end of the park (i.e., phases 1.2– 4.0). The panels, as shown in the Storyline Development, above, cover (1) historical and social topics tied to the creek; (2) descriptions of native flora planted in the park and the fauna that find food and shelter there; and (3) descriptions of the engineered features that make the park possible. The panels will include text, photographs, diagrams, and maps.

We further recommend that the panels be designed in the same way and using the same materials and methods of those developed in Phase 1.1, with the exception of language. The San Pedro Creek Culture Park Interpretive Plan Committee recommended that the panels be developed in both English and Spanish.

3. BRIDGE SIGN SERIES

Because the bridges crossing the creek and the names of the streets that they extend are tied closely to the urban history of the creek, we recommend including a small plaque on each of the 10 main bridges crossing the creek in phases 1.2–4.0 that reveal the history and meaning of their names. A brief treatment of these is included in the Storyline Development.

4. MOBILE APP

A further purpose of the Interpretive Plan is to provide content for the rich and layered mobile app that was developed for Phase 1.1. so that it can be extended with the later phases of park development. The three themes of the interpretive panel series (history, nature, and engineering/design) (complemented by the related public art program)were conceived with the mobile app in mind and its discovery tours that fall into the categories of art, nature, and culture. Since many of the engineering elements impact water quality and the ability of the water to support ecosystems, we recommend that the engineering topics be grouped with the nature topics in app's tours, if not developed into a fourth tour topic.

5. WEBSITE

This Interpretive Plan is also intended to provide content for the park website, which has already been established, so that its scope, like that of the mobile app, can be extended as the park extends. This is a venue for unlimited additional information about the SPCCP, the creek, and the history of the region.

6. AUGMENTED REALITY EXPERIENCES

Leveraging the developing technology of augmented reality can allow for some exciting interpretive opportunities along the San Pedro Creek Culture Park. Using a smart phones or tablet as a view portal, a visitor could stand in the middle of a historic event. This technology could also be used to show how a place along the creek transformed from a quiet stream to a residential and garden environment, perhaps witnessed a revolutionary war, turned into an industrial setting, became a drainage ditch, and was reborn again as a beautiful park.

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FOR MORE INFORMATION

For more information on the **San Pedro Creek Culture Park**, please contact the following:

Website: <u>https://spcculturepark.com</u> Project Information Line: (210) 302-3652 Email: <u>SanPedroCreek@sara-tx.org</u> Address: 715 Camaron Street, San Antonio, TX 78204



PHASE 2 IN PLANNING

PHASE 3 IN PLANNING

9.1

S, FLORES ST.

San Pedro Creek and the Saga of a City

THE EPIC STORY OF SAN ANTONIO DE BÉXAR begins with these waters. They were a source of sustenance and refreshment for the first peoples here, many thousands of years before Europeans arrived. History records the stories of the first encounters between the Indian and Spanish worlds that took place near here, beginning in the 1690s and culminating in May of 1718 with a settlement that would become San Antonio and Bexar County. From that moment, a great American city would eventually emerge. For its three hundred years, this place has always been a crossroads of cultures, a meeting place for peoples of the world.

How did a humble creek at the edge of Nueva España become a crossroads of many nations?

The San Pedro Creek Culture Park commemorates the human saga of San Antonio, a community founded in the era of Nueva España and later adopted into the American republic. It is a tale that begins in a natural setting, evolves into a mission town at the edge of a burgeoning empire, and becomes a cosmic American city that anticipates much of what America is becoming: a place of all nations, a refuge of hope and promise in an uncertain world. The story you will follow along the creek tells the tale of how this place became San Antonio, *la ciudad cosmica*.

Courtesy: San Antonio River Authority Archive, University of Texas at San Antonio Libraries Special Collections.

Both the San Pedro Creek and San Antonio River flood control tunnels were constructed using a boring machine or "mole." The mole was assembled underground and bored from the outlet shaft upstream to the inlet shaft. The tunnels were lined with precast concrete panels as the mole advanced. This photograph shows the outlet shaft for the San Pedro Creek tunnel.

A Chronicle of Floods and Their Legacy of Calamities

NATURE NURTURES OUR COMMUNITIES, but it can also cause great destruction. This creek, that served as the cradle of first settlement in 1718 together with its tributary streams on San Antonio's west side, caused heavy loss of life and property, particularly as the city grew in the 1800s and 1900s. Early efforts to remedy flooding by widening and straightening the creeks altered their age-old natural appearance but helped to control devastating flood waters. By the late 1900s, the San Antonio River Authority and United States Army Corps of Engineers determined that the most efficient and affordable way to protect downtown San Antonio from flooding would be to construct underground bypass tunnels on both the San Antonio River and San Pedro Creek. The San Pedro Creek tunnel was first to be built. Begun in 1987, the tunnel was completed in 1991. In times of deluge, raging waters enter the tunnel at the inlet shaft near here, plummet 140 feet into a 24-foot-diameter tunnel, then surge forward over a mile to an outlet at Guadalupe Street, south of downtown. Flood waters then emerge into the surface channel that courses turbulently downstream to the creek's confluence with the San Antonio River.

Flooding was widespread in neighborhoods along San Pedro Creek. The Finesilver clothing manufacturing plant on the creek's east bank was one of many properties damaged in the 1921 flood.

Engineering, technology, and great labor were needed to protect the city from periodic deluges.

The flood of September 1921 caused significant loss of life and damage in both the downtown area and neighborhoods adjoining the river and west side creeks. Torrents of water overflowed the banks, destroying commercial buildings and washing away houses. Of the 51 confirmed deaths, all but four occurred along the San Pedro, Alazán, and other west side creeks.

Source: San Antonio *Evening News,* September 18, 1921. Courtesy: DRT Collection at Texas A&M University–San Antonio.

Courtesy: San Antonio River Authority

The flow of San Pedro Creek remains in its surface channel under normal conditions. However in times of flooding, excess water is diverted into an underground tunnel to bypass the heavily developed downtown area. On the other hand, during dry periods when springs feeding the creek slow or cease flowing, water pumped out of the tunnel at its upstream end flows downstream through the surface channel, then returns to the tunnel at its outlet shaft to once again be recycled.


Painting: Theodore Gentilz; Courtesy: Witte Museum, San Antonio.

Indigenous people hunted, fished, and camped along area streams for thousands of years before Spanish explorers arrived in the late 1600s. Camp of the Lipan depicts a similar scene outside of San Antonio in the late 19th century.

GEOLOGICAL TIME DWARFS human time, but the two are closely intertwined. For millennia San Pedro Springs have risen to the surface from a deep, purifying underground aquifer. These abundant waters once formed a swiftly flowing creek that sustained myriad indigenous peoples for 12,000 years before the Spanish arrived to establish a permanent settlement here in 1718. Following the settlement of families from Spain's Canary Islands in 1731, land along San Pedro Creek was apportioned among them by royal land grants for farming and collective grazing. Gradually a community of Spanish soldiers, civilians, indigenous, and diverse mestizo (mixed) residents developed along the creek. These early settlers would be joined, beginning in the 1820s, by colonists from the United States and Europe who came seeking land and opportunity in Texas, then still part of Mexico. The influx of new residents accelerated after Texas became an independent republic in 1836 and a state in 1845.

San Pedro Creek: A Crossroads of Cultures

From its earliest encounters between people of all nations, Béxar became a mestizo community, a place where our humanity was transformed.

San Antonio became a frontier community of many nations where Native Americans, Mexicans, Germans, French, Poles, Lebanese, Italians, and African Americans lived and worked side by side. Many of these communities mixed with others, and San Antonio became increasingly mestizo. But as other ethnic divides widened, San Pedro Creek would eventually become a boundary line between the emerging city's Anglo and Mexican enclaves. The neighborhood here on the creek's upper reach was home to many Italian immigrants who sold produce and other traditional specialties at the nearby municipal market. Members of this vibrant community formed the Christopher Columbus Italian Society in 1890 and built San Francesco di Paola Church and the adjoining parish hall in 1927. Though much of this neighborhood was demolished when expressways were constructed beginning in the 1940s, this area along San Pedro Creek is considered to be the center of San Antonio's Italian community.

Large numbers of European immigrants arrived in San Antonio in the mid-to-late 1800s seeking new opportunities. Many settled along and near San Pedro Creek including French artist Theodore Gentilz and his wife Marie, seen here in front of their home on North Flores Street just east of the creek.



Courtesy: DRT Collection at Texas A&M University-San Antonio.





Courtesy: DRT Collection at Texas A&M University-San Antonio.

alian merchants operated tores nearby and sold egetables and other goods at San Antonio's municipal market, a short distance south

In the 1800s the main noroughfare west of the creek was Laredo Street, and the area became informally known as Laredito. La Esperanza Grocery No. 3 near San Pedro Creek on North Laredo Street was typical of the small businesses operated by the area's residents.

Birth of a Community

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MAPA OL PRESIDIO O SAN ANTONIO O BEXAR. 1 55 SVS MISIONES OLA PROVINSIA O TEXAS FÃO EN 24. DEL MES O MARZO OJ764. POR EL CAPITAN DON LVIS ANTTONIO MENCHACA TVE LO ESO DÃO PRESIDIO 200

In the late 1600s the Spanish mounted several expeditions across the Rio Grande to the eastern edge of New Spain, founding missions and presidios to counter the French and to convert the natives to Christianity. This map, by presidial commander Luis Antonio Menchaca in 1764, shows the San Antonio community from the headwaters of the river to its confluence with the Medina River.

Courtesy: John Carter Brown Library, Brown University, Providence, R.I.

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The chronicle of encounters over decades and centuries tells the story of a city's beginnings and emergence.

BEGINNING IN THE 1680s, 160 years after the conquest of Mexico, several Spanish expeditions entered the still uncharted interior of Texas from Mexico to counter French activity in East Texas and along the Gulf Coast.

On June 13, 1691, an expedition led by Governor Domingo Terán arrived at a Payaya Indian *ranchería* on a beautiful spring-fed river. The Indians called the place Yanaguana. The Spanish named the river San Antonio because it was

Following establishment of the mission and presidio and the arrival of more settlers, Spanish officials allocated land for homes and farms. The community's first surveyors used ropes and rocks to measure and mark lot boundaries, while in later years more sophisticated instruments were used including the surveyor's cross depicted in this historical painting.



the feast day of St. Anthony of Padua. Eighteen years later, when the next Spanish expedition, with Capitán Pedro de Aguirre and Fray Antonio Olivares, visited the area on April 13, 1709, it stopped at a lush spring just west of the river and named it San Pedro Springs. Nine years later the viceroy of New Spain, the Marqués de Valero, authorized Governor Martín de Alarcón to establish a way station on the San Antonio River between Mission San Juan Bautista on the Rio Grande and Spanish missions in East Texas. The Alarcón expedition arrived along the creek flowing from San Pedro Springs in late April 1718 and selected a site for Mission San Antonio de Valero, which was turned over to Franciscan missionary Fray Antonio Olivares on May 1. Four days later Alarcón founded the Presidio San Antonio de Béxar near the springs. These events marked the establishment of the isolated settlement that survived, grew, and prospered to become the City of San Antonio and Bexar County.

> Spanish expeditions into Texas generally included Francisca priests who established missions for the indigenous populatior soldiers who established presidios to protect the missions, and Indian guides and laborers. New Spain included all of modern Mexico, most of Central America, and the American Southwest.

Drawing: José Cisneros; Courtesy: University of Texas at San Antonio Libraries Special Collections.





San Pedro Creek was reconfigured to accommodate construction of the city's expressway system in 1949. This work involved filling in the natural channel (above) and building a new concrete-lined channel (below).



urtesy: *Express-News* Collection, University of Texas at San Antonio Libraries Special Collections and Hearst Corporation.

THE PRISTINE AND LUSH natural setting of the primordial creek, with its riparian abundance of flora and fauna, would change dramatically as the town grew in the mid-tolate 1800s. Though garden plots and grazing land along the creek and nearby streets would give way to building sites for houses and businesses, the creek itself remained largely unchanged until the early 1900s. But the periodic floods that damaged adjacent properties and claimed lives worsened in 1917 when the creek was channeled into an overly narrow underground culvert downstream from here to facilitate construction of the terminal for the Missouri, Kansas & Texas Railroad (known as the M-K-T or the Katy). City leaders later made plans to widen the creek in order to speed the passage of flood water. Depression-era programs funded work to straighten the creek and line its walls with stone and concrete to prevent collapse. The course of San Pedro Creek

The Taming of San Pedro Creek

that had emerged over thousands of years, was gradually transformed from a natural waterway into a concrete drainage ditch, a process that continued in the 1940s when the channel was re-directed to accommodate highway construction. By 1951 ongoing urban development and subsequent worsening flooding led to adoption of the San Antonio River Channel Improvement Project. This monumental effort would address 31 miles of waterway improvements throughout the city, including along San Pedro Creek. Work to widen, deepen, and straighten the creek south of downtown was finished in the mid-1970s, and the San Pedro Creek flood bypass tunnel, designed to protect the downtown area, was completed in 1991. Completion of this tunnel made it possible to establish a world-class linear culture park and restore the onetime splendor of the creek's aquatic environment. The waters of San Pedro Creek flow in beauty once again.

The original blessing of San Antonio-its abundant waterswould eventually have to be controlled to allow the city to grow and flourish.



Courtesy: Light Collection, University of Texas at San Antonio Libraries Special Collections and Hearst Corporation.

Relief workers were employed during the Depression to build concrete walls along San Pedro Creek to contain flood waters. Laborers constructed walls downstream from this site near today's César Chávez Boulevard.

Bridges for pedestrians and vehicles connected neighborhoods on either side of San Pedro Creek as pictured here in the late 1920s.

esy: University of Texas at San Antonio Libraries Specia

The Living Worlds of San Pedro Creek



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Large bigclaw river shrimp were once found in the San Antonio River drainage. This one, held by Marguerite Goodspeed, was caught in 1927.

THE FIRST SPANISH EXPLORERS to arrive in the environs of San Pedro Creek and the nearby San Antonio River attested to a panorama of natural beauty and abundance, full of promise as a place to create a lasting settlement. San Pedro Creek drains a watershed of about 45 square miles on San Antonio's west side. Along most of its course, the creek closely parallels the San Antonio River to the east, and its major tributaries – Martínez, Alazán, and Apache creeks – feed into it from the west Spanish explorers, who camped by the creek three hundred years ago, reported ample, high quality water, lush vegetation, and plentiful game and fish in the area.



Source: animalspot.net.

For early settlers the area was an oasis in the otherwise arid landscape. In its natural state, the creek provided habitat for a wide variety of aquatic plants and animals. Over time, weather cycles caused extreme floods that carved new channels, altered banks, and resulted in loss of life and property, while drought killed vegetation and caused wildlife to relocate. Beginning in the early 1900s, in an effort to alleviate devastating flooding, the channel was straightened, widened, and lined with stone and concrete, banks were sloped, and vegetation was removed. Though efforts to tame the creek were generally successful, they resulted in the unfortunate

loss of natural habitat and changed the relationship between residents of adjoining neighborhoods and the creek. The San Pedro Creek Improvements Project, one of several major stream enhancement efforts by Bexar County, the City of San Antonio, and the San Antonio River Authority, returned the creek to a more natural state while maintaining flood control. The revitalized creek provides improved water quality, increased biological diversity, and renewed opportunities for people to enjoy this historic urban waterway and reflect on its extraordinary legacy.

Yellow-crowned night herons are large birds that inhabit most wetlands from coastal marshes to wooded streams. These ambush predators patiently watch from the creek banks, waiting to grab a crawfish or other prey. While primarily nocturnal, these birds also feed during the day.



Photo: Terry Hibbitts, Camp Wood.

Suddenly, in the midst of an arid landscape of dire challenges, here was an unexpected oasis – brimming with life.



The Guadalupe spiny soft-shelled *turtle is found only in the San* Antonio and Nueces river drainages of South Central Texas. It is totally dependent on the streams where it lives, leaving the water only to bask and lay eggs. Soft-shells feed on fish and other aquatic animals.



Plants are an important part of the creek ecosystem. Some plants such as yellow pond lily have leaves that float on the water's surface. Other plants such as pickerelweed emerge out of shallow water with their leaves and flowers extending above the water surface. Bald cypress are majestic trees that grow along creeks and rivers and can reach heights of 75 feet or taller. Mealy blue sage is a perennial wildflower that grows in the riparian environment. These plants provide shade, cover, and food for wildlife including pollinators and birds.







Courtesy: Tracy Hammer, San Antonio.

Early Industry Along San Pedro Creek

These ancient waters also served as a resource for San Antonio's first entrepreneurs and aspiring industrialists.

SAN PEDRO CREEK was an invaluable source of water for residents who lived and farmed and grazed their livestock along its banks. The creek also provided water for businesses that manufactured a variety of products for the local market. The ingenious German immigrant Simon Menger, a music teacher by profession, purchased a soap-making business on the creek south of this site in 1851.

He expanded the facility and advertised himsel: San Antonio business and August oversaw a branch factory in Houston. Erich purchased the as a "manufacturer of soap, tallow candles and vinegar." After his factory was badly damaged soap works in 1882 and continued operating the business here until the early 1900s. The building by a flood in 1859, Menger began purchasing property further upstream and reestablished was later used as a broom factory, printing shop, his business here on the west bank of San Pedro and apartments. Like other landmarks of early city history, the soap works was abandoned Creek. Simon and Augusta Louise Menger raised their family in the home they built adjoining the to decades of disuse. After surviving years factory. S. Menger and Sons, later known as the of neglect, it was eventually threatened with demolition by the Urban Renewal program, only San Antonio Soap Works, manufactured products for to be saved by the San Antonio Conservation household and commercial Society in 1970. This historic structure, San uses and by the late 1870s Antonio's earliest remaining industrial building, was restored and incorporated into the nearby sold over 25,000 pounds of soap per month. As their Soap Works Apartment complex. Part of the father grew older, Erich creek's long history lives within its walls.

Menger managed the

The Menger family posed for a photographer in front of their soap factory in the late 1880s.

S. MENGER



Source: Grands Hommes et Grands Faits de l'Industrie, published in France about 1880

A Living Heritage: City Streets and the Legacy of Early Settlers

Those who owned property and lived along the creek in this area ncluded members of the Chávez, García, Garza, and Mojaras amilies. **P**rominent rancher Juan Antonio Chávez, who was born near San Pedro Creek in 1827 and died nearby on Obraje Street in 1911, witnessed the colonial town grow to become a modern city.

Source: Twentieth Century History of Southwest Texas, 1907.

THE STREETS AND BRIDGES that span San Pedro Creek define the modern city. But they also echo the legacies of the early settler families of New Spain who built their dwellings on land granted to them by Spanish authorities in the 1700s. *Herencia* (heritage) is alive here. These pioneer residents drew water from the creek and nearby acequia, a hand-dug irrigation channel that delivered water from San Pedro Springs to nearby fields and homes. Their descendants inherited irrigated farms and homesteads, which were sold and subdivided as the town prospered and grew outward from the creek banks in the mid-1800s. Early unpaved streets were named, in Spanish to reflect landscape features and known landmarks of the era. Among this array of early streets were Acequia (for the irrigation channel), Campo Santo (for the burial ground west of San Pedro Creek), Nogales (for pecan trees growing near the creek), Obraje (for adobe workshops in the area), and Arroyo San Pedro (the street alongside the creek). As the city grew and populations shifted in size and influence, some street names were changed to commemorate prominent residents and historical figures.

Today's bridges and street names contain hidden annals of San Antonio's deep history.

Campo Santo became Rivas, and Nogales was renamed Salinas-both recognizing influential families. Later, city streets would be renamed for heroes of the Texas Revolution, signalling shifting influence and power. Obraje became Travis Street in remembrance of William Barret Travis, commander of Texas troops at the Battle of the Alamo, and Rivas was changed to Houston Street to



Courtesy: James Lifshutz, San Antono.

honor Sam Houston, the Texas army general who became the first president of the Republic of Texas. Though most of the adobe and stone buildings that served as tangible reminders of San Antonio's past had disappeared by the 21st century, downtown street names still carry the memory of our city's long, deep, and richly layered history.

> Mariano García and his wife, Tomasa Chávez, built their home on Nogales (later Salinas) Street in the middle 1850s. The house was enlarged as their family grew. It was the home of García's foster grandson, Adolph Garza Jr., until 1981 when it was sold and converted into offices. The house is seen here as it appeared in the 1970s.



property owners.

By the late 1800s streets and bridges spanned San Pedro Creek, and the land had been subdivided among many

THE COMMUNITY GREW SLOWLY in the years after its founding in 1718. In the earliest years of this community of New Spain, military and civilian residents intermingled, and there was no organized civilian settlement. By royal decree, municipal government was formalized in 1731 upon the arrival of fifteen families from the Canary Islands. Because land west of San Pedro Creek lacked irrigation and was often at risk from ongoing Indian attacks, the colonists were settled near the presidio that stood on the creek's east bank. In July 1732 Captain Juan Antonio Pérez de Almazán laid out the new civilian villa that included a central plaza, the *ejido* (a town common), and land for collective grazing and farming (the *labores*). Town and outlying lots were granted to the Isleños (Canary Islander families). As the town grew, it was organized into barrios that would shape and imprint the city's future– the Barrio del Sur, Barrio del Norte, Barrio del Alamo, La Villita, El Portrero, and the Barrio de Laredo, each represented by its own commissioner. The Barrio del Norte included land lying between the creek and river stretching from the town's plazas to just north of this site. An acequia (irrigation channel) dug from San Pedro Springs south to near the creek's confluence with the San Antonio River was completed in 1734 to provide water to homes and farms in the Barrio del Norte. Because of its access to abundant water and proximity to the plazas that were the center of community life, the Barrio del Norte developed into a thriving neighborhood where members of diverse ethnic groups lived and worked side by side.

Drawing: José Cisneros.Courtesy: University of Texas at Sa Antonio Libraries Special Collections.

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The Barrio del Norte

The presidial commander, Juan Antonio Almazán, issued land titles to settlers from the Canary Islands.



Plaza de las Armas (Military Plaza) just east of the creek was the site of a vibrant market where residents of the Barrio del Norte gathered throughout the 1800s. This depiction of the market was painted by Thomas Allen in 1878.

Out of its origins in Nueva España, independent Mexico, and Texas, an American city took shape.

San Antonio was organized into governmental units known as barrios as illustrated on John Rullman's map of the city as it was in 1837. Rullman based his map, published in 1912, on extensive historical research.



The Healing Arts West of the Creek Over the centuries, many healers would find their way to the creek.

The Sisters of Charity worked closely with hospital staff including Dr. Ferdinand Herff and his son, Dr. Adolph Herff, as they performed an operation in about 1900.

Courtesy: *Express-News* Collection, University of Texas at San Antonio Libraries Special Collections and Hearst Corporation.

AS THE CITY'S POPULATION GREW, communities pursued public health in diverse ways. Health care in San Antonio in the early-to-mid 1800s was administered by private physicians, druggists, and *curanderos* (folk healers). After a cholera epidemic killed hundreds in 1849, the Bexar County Medical Society was founded, and city and county physicians were hired. Construction of a joint city-county hospital was being discussed when another cholera epidemic killed 293 local residents in 1866. Through the efforts of Catholic Bishop Claude Marie Dubuis, Sisters Madeleine Chollet, St. Pierre Cinquin, and Agnes Buisson, members of the Sisters of Charity of the Incarnate Word, arrived in San Antonio in 1869 to open a small infirmary. Their facility, just east of San Pedro Creek on Military Plaza, served all races and religions regardless of ability to pay. The order also built an orphanage on Houston Street west of the creek. In 1875 the infirmary, later christened Santa Rosa Hospital, moved from the boisterous and noisy plaza to the quieter orphanage site. The sisters worked alongside doctors in all areas of patient treatment and care. The hospital was continuously expanded and modernized to offer new services including specialized health care for children. The facility, today known as Children's Hospital of San Antonio, still cares for patients from throughout South Texas at the site just west of San Pedro Creek where it has fulfilled its health care mission since 1875.



Source: "Bird's Eye View of San Antonio, Bexar Co. Texas 1886. Looking North East."

Augustus Koch illustrated Santa Rosa Hospital (left) on his 1886 bird's-eye view of the city. The site of the infirmary opened on Military Plaza in 1869 can also be seen (right). Both were located near San Pedro Creek, which flows between the two locations.



courtesy: Sisters of Charity of the Incarnate Word Arch



Courtesy: University of Texas at San Antonio Libraries Special Collections.

e, San Antonio.

The Sisters of Charity of the Incarnate Word expanded and modernized their hospital to keep pace with the growing number of patients and rapid advances in health care. The multi-story hospital overlooking Milam Park is seen here in photographs taken in about 1884 (above) and 1935 (left). The tower of San Francesco di Paola Church can be seen in the top left of the later picture.