



Edwards Aquifer Protection Program Water Quality Initiatives

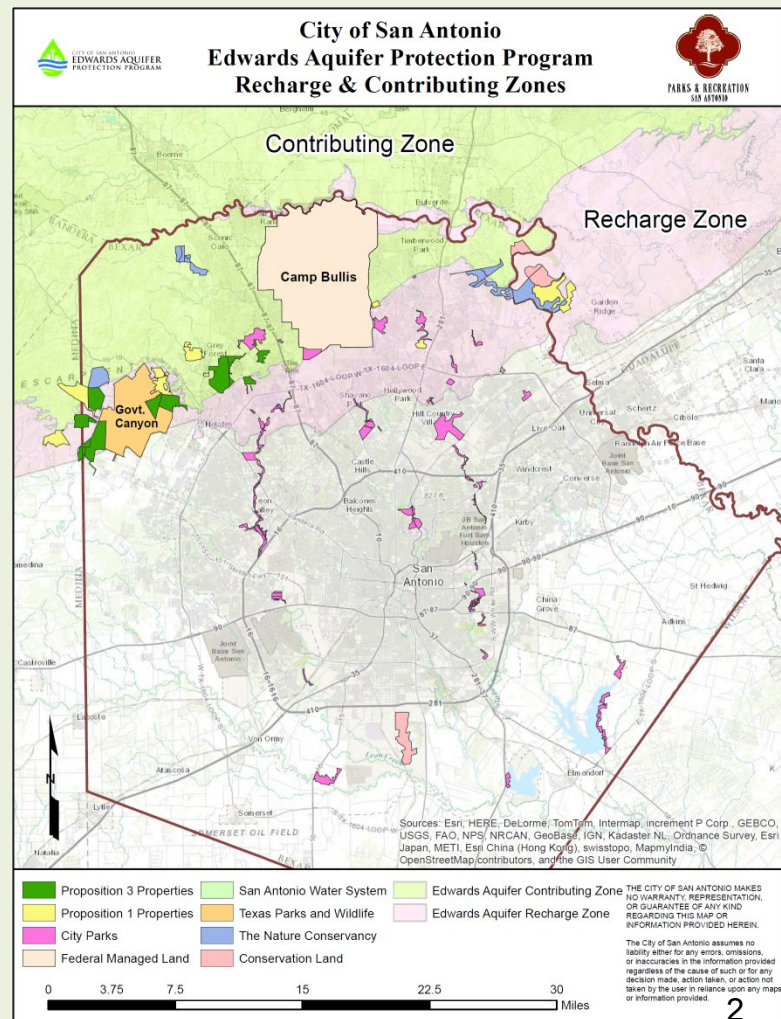


PARKS & RECREATION
SAN ANTONIO

City Council
June 13, 2019
Parks and Recreation Department

Background

- May 2015 – Voters renew Proposition 1 sales tax for aquifer protection
- \$10 million dedicated for water quality projects specifically in urbanized areas of Bexar County over the aquifer Recharge or Contributing Zones



Qualifying Projects

- Must be over the Recharge and Contributing zones in Bexar County
- Seek to improve water quality in areas that do not meet or exceed current TCEQ standards
- Accommodate pre- and post- project implementation assessment

Background



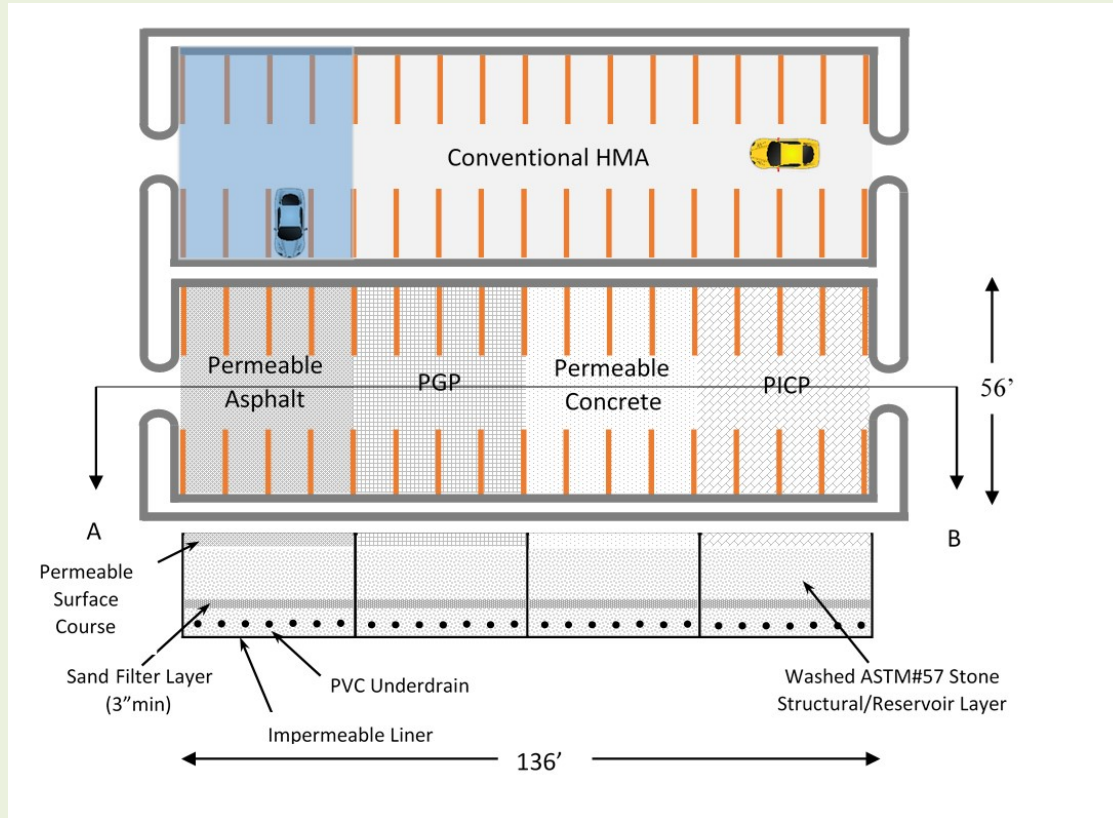
Project Selection

Project: New Construction / Research	Funding Request
<p>University of Texas at San Antonio: Demonstrating the Environmental Benefits of Permeable Paved Surfaces over the Edwards Aquifer</p> <p>Term: Three Years (9/1/2019 – 11/30/2022)</p>	<p>\$1,035,761</p>

Summary of Deliverables

- Design and construction of a four-cell permeable pavement parking lot, each containing a different kind of permeable pavement at Classen-Steubing Ranch in Council District 9
 - Will enhance 2017-2022 Bond Proposition 3 recreational facility project
- Pre, during and post-construction water quality samples for the permeable pavement cells and adjacent conventional parking lot
 - Will also compare water runoff flow and temperatures, post-construction surface temperatures, surface condition over time, and cost/benefits of permeable pavement systems
- Will provide final report and will develop and educational module for UTSA undergrad and graduate course demonstrating the benefits of permeable-surface best management practices

Permeable Pavement Site Layout



Project Selection

Project: Research / Studies / Data	Funding Request
University of Texas at San Antonio: Evaluation of the Vegetation along Roadways in Edwards Aquifer Recharge and Contributing Zones for Storm Water Management and Water Quality Improvement Term: Three Years (9/1/2019 – 8/31/2022)	\$798,636

Summary of Deliverables

- Site assessment surveys at TCI-managed stormwater retention basins and grassy swales located over the Edwards Aquifer recharge and contributing zones on Vance Jackson Blvd, Bulverde Road, Babcock Road, Camp Bullis Road, and Huebner Road
- Vegetation surveys during dormant and growing seasons to evaluate species richness, evenness and diversity at each site
- Highway right-of-way water quality monitoring data
- Final report and public outreach
 - Results will indicate which plants require lower maintenance along highways, slow runoff and control pollutants from entering the aquifer
 - Results may be used in other Low Impact Design projects to decrease stormwater runoff and improve water quality

Project Selection

Project: Research / Studies / Data	Funding Request
Texas A&M University - San Antonio: Edwards Aquifer Water Quality Protection from Catastrophic and Low to Mid-Level Effects of Discharge of Hazardous and Polluting Materials From Contaminated Water Runoff During Emergency Response	\$218,937

Summary of Deliverables

- Training curriculum and program for First Responders on use of Emergency Response Best Management Practices, use of containment tools and supplies, and how to use Mobile Interface
- Development of a spatial/map-based database for First Responders: “Edwards Aquifer Water Quality Protection Information Base and Mobile Interface for First Responders and Fire Emergencies”
- Best Management Practices for use in the Edwards Aquifer recharge zone to protect the aquifer from contamination from emergency response water runoff
- Development of a video to educate and inform first responders and the general public
- A workshop and report to share emergency response experiences and practices in karst watersheds



Recommendation

- Staff recommends approval