# CITY OF SAN ANTONIO

**DEVELOPMENT SERVICES DEPARTMENT**
1901 S. Alamo, San Antonio, TX 78204

## ADMINISTRATIVE EXCEPTION/VARIANCE REQUEST APPLICATION

| | |
|---|---|
| **Project Name:** | Fort Sam ISD New Roadway, Winans Road to Rittiman Road |
| **A/P # /PPR # /Plat #** | City of San Antonio Project Number 23-01581 |
| **Date:** | May 5, 2020 |
| **Code Issue:** | Unsafe Roadway Crossing from Flooding |
| **Code Sections:** | 35-F124(f)(1) and 35-125(a)(3) |

**Submitted By:** ☑ Owner ☐ Owners Agent * (Requires notarized Letter of Agent)

| | | | |
|---|---|---|---|
| **Owners Name:** | Sean D. Strong, PE, Senior Engineer/Project Manager | | |
| **Company:** | City of San Antonio, Public Works Department | | |
| **Address:** | 114 W. Commerce Street, San Antonio, Texas | **Zip Code:** | 78205 |
| **Tel #:** 210-207-8037 | **Fax#** 210-207-7196 | **E-Mail:** | sean.strong@sanantonio.gov |
| **Consultant:** | Raul H. Garcia, Jr., PE | | |
| **Company:** | Garcia & Wright Consulting Engineers, Inc. | | |
| **Address:** | 407 W. Rhapsody, San Antonio, Texas | **Zip Code:** | 78216 |
| **Tel #:** 210-349-5253 | **Fax#** | **E-Mail:** | rgarciajr@garciawright.com |
| **Signature:** | Sean D. Strong, PE | | |

### Additional Information – Subdivision Plat Variances & Time Extensions

1. ☐ Time Extension ☐ Sidewalk ☑ Floodplain Permit ☐ Completeness Appeal
   ☐ Other _____

2. City Council District 2 Ferguson Map Grid _____ Zoning District N/A

| | | |
|---|---|---|
| 3. San Antonio City Limits | ☑ Yes | ☐ No |
| 4. Edwards Aquifer Recharge Zone? | ☐ Yes | ☑ No |
| 5. Previous/existing landfill? | ☐ Yes | ☑ No |
| 6. Parkland Greenbelts or open space? Floodplain? | ☑ Yes | ☐ No |

**GARCIA & WRIGHT CONSULTING ENGINEERS, INC.**

407 W. Rhapsody, San Antonio, Tx 78216

May 5, 2020

Administrative Exception / Variance Request Review
c/o Development Services Staff
Development Services Department
City of San Antonio
1901 S. Alamo
San Antonio, TX 78204

Re: Fort Sam ISD New Roadway (Winans Road to Rittiman Road)
Project Number 23-01581
UDC Codes 35-F124(f)(1) and F125(a)(3)

☑ Administrative Exception

☐ Environmental Variance

☐ Subdivision Platting Variance – Time Extension

Dear Development Services Staff,

The Fort Sam Houston ISD Roadway Project proposes an access road in John James Park that begins at Rittiman Road on the north end and connects to Winans Road to the south, following the west boundary of the park. This roadway will provide a secondary access road to Robert G. Cole Middle School. In addition, there is a proposed roadway that parallels Winans Road immediately north of its ROW and extends due east for approximately 1,000 feet to provide access to a Veterans Administration facility. These roadways are adjacent to and west of Salado Creek and have portions of their alignment inundated by the Effective FEMA 100-year Special Flood Hazard Area (Zone AE) of Salado Creek. The inundations are primarily from the backwater of Salado Creek and are not in the main conveyance of flows. The design variance being requested is in regards to the Unified Development Code Sections 35-F124(f)(1) and F125(a)(3) that both refer to allowable and prohibitive development respectively of roadways in floodplain that do not meet a safe water crossing per Section 4.3.1C(4) in Appendix H. There are three general areas of the proposed roadway identified through flood analysis as being inundated by the 100-year floodplain to a point they do not meet the criteria set forth in Section 4.3.1C(4) in Appendix H.

The current effective floodplain models for Salado Creek were reviewed. It was determined that the Rittiman Road capital improvement bridge project did not submit a FEMA LOMR following the completion of the construction in 2014. Since the new bridge is immediately upstream of the Fort Sam ISD Roadway project, a flood study was conducted for this project to investigate if the Rittiman Road bridge project provided any benefit to the proposed roadway project by reducing the floodplain risks. The flood study titled, “Floodplain Mapping of Salado Creek for the Fort Sam Houston ISD Road”, dated April 6, 2020, is provided in Attachment 1. The study analyzed and remapped the section of Salado Creek along the proposed Fort Sam ISD New roadways and identified three locations the roadways are inundated by the 100-year floodplain.

Garcia & Wright Consulting Engineers, Inc. is hereby requesting a design variance from the City of San Antonio to allow the construction of these roadways with the 100-year floodplain of Salado Creek.

The hydraulic analysis provided in the above referenced flood study determined the roadways will be operational for the smaller storm events, such as 1, 2, and 5-year storms. These smaller storm events are considered frequent storm events, which make up the majority of storms statistically experienced in a year. In addition, the storm events are considered safe crossings for higher storms with inundations that meet Section 4.3.1C(4) in Appendix H of the Unified Development Code. Table 3 in the flood study provided in Attachment 1 reports the modeled flood depths for the larger storm events for all three locations. To provide safety of the traveling public during infrequent rainfall events, the proposed roadways are to have HALT Systems installed with sensors to detect and warn traffic of highwater at the three locations identified in the flood study. The Floodplain Exhibit in the flood study provided in Attachment 1 indicates the preliminary locations for five HALT signs with flashing beacons. These systems would be part of the overall countywide system currently in place. With the analysis performed and HALT systems proposed, the current design has considered all practical measures to minimize any adverse impacts to public health, safety, and public welfare. A detail of a typical HALT Sign with flashing beacon is provided in Attachment 2.

The roadways are currently at natural grade in the areas of inundation by the 100-year storm events. The option of raising the roadways to remove them from the 100-year storm event flood depths or at an acceptable elevation to make them meet the criteria of Section 4.3.1C(4) in Appendix H was considered not feasible. The raised profile would require 3 to 5 feet of fill for significant portions of the roadways in the floodplain, which would cause floodplain displacement and adverse impacts to the water surface elevations of Salado Creek. This would cause impacts beyond the park area and other properties.

The construction of these roadway will not cause traffic or drainage issues for any adjacent properties or structures. The proposed roadways will not service critical facilities and are considered secondary access roads specifically for the school and VA facility. The steps taken to protect the traveling public with HALT Systems is appropriate for a secondary access roadway. Outreach efforts and communications with the school and stakeholders acknowledging the secondary access and the risks associated with the floodplain issues are provided in Attachment 3. The Fort Sam ISD New Roadway is proposed to relieve traffic issues during heavily attended events at the school with direct access from Rittiman Road. This would relieve traffic problems on Winans and McMurray Roads. The proposed roadway for the VA facility, only serves the facility and can be considered a private maintenance access. It is our opinion that this variance request will not be contrary to the spirit and intent of the UDC section noted above due to the following reasons:

- These proposed secondary access roads are specifically for the school and VA facilities and will not be used for local or through traffic.
- There would be no significant impacts to traffic, if roads are temporarily inaccessible when the flashing beacons are activated.
- The roadways are to be constructed at natural grade and will not adversely impact the water surface elevations of Salado Creek.
- The roadways will not adversely impact any adjacent properties or structures.

**GARCIA & WRIGHT CONSULTING ENGINEERS, INC.**

407 W. Rhapsody, San Antonio, Tx 78216



The need for the secondary access roads will provide relief to traffic in the area around the school and VA facility. Therefore, the public interest appears to be served with no adverse impacts, if this variance is granted.

In our professional opinion, the proposed Variance Request remains in harmony with the spirit and intent of the UDC as it will not adversely affect the health, safety, or welfare of the public. We appreciate your consideration of this request.

Sincerely,

Raul H. Garcia, Jr., P.E.

Attachment 1 – Flood Study of Salado Creek
Attachment 2 – Detail of HALT Sign with Flashing Beacons
Attachment 3 – Outreach and Communication with Stakeholders

**For Office Use Only:** AEVR #: _____ Date Received: _____

**DSD – Director Official Action:**

☐ APPROVED ☐ APPROVED W/ COMMENTS ☐ DENIED

Signature: _____ Date: _____

Printed Name: _____ Title: _____

Comments: _____

# ATTACHMENT 1

# FLOOD STUDY OF SALADO CREEK

MAESTAS

April 6, 2020

Mr. Raul H. Garcia, Jr., PE
Garcia & Wright Consulting Engineers, Inc.
407 W. Rhapsody
San Antonio, TX 78216

Subject: Technical Memo – Floodplain Mapping of Salado Creek for the Fort Sam Houston ISD Road

Mr. Garcia:

Maestas & Associates LLC (Maestas) is pleased to provide Garcia & Wright Consulting Engineers, Inc. (GWC) with this technical memorandum which provides the methods, assumption, calculations, and results for the updated floodplain mapping of Salado Creek downstream of Rittiman Road Bridge for approximately 9,000 feet. This floodplain mapping update to Salado Creek is in support of the proposed Fort Sam Houston ISD Roadway Project in John James Park. This roadway begins on the north end at Rittiman Road, follows the west boundary of the park and east boundary of Robert G. Cole Middle School, and terminates at the south end at Winans Road. The proposed roadway is to be constructed at existing grades and will have a low header curb section. In addition, there is separate planned project with a proposed roadway situated immediately north and parallel of Winans Roadway for approximately 1,000 feet due east from the proposed Fort Sam Houston ISD Roadway. This roadway is planned to be constructed similarly, at natural grade with a low header curb section. The current effective floodplain mapping indicates large portions of both proposed roadways are within the 100-year floodplain of Salado Creek. This is mainly from backwater from Salado Creek and a divided flow in the right over bank downstream of Rittiman Road. This flood study and remapping effort will redefine the mapping with updated topographic data, addition of the new Rittiman Road Bridge, and Atlas 14 rainfall data. The impact analyses for the two roadways are based solely on the riverine flooding and backwater of Salado Creek for the 100-year storm events (Existing, Ultimate Development, and Atlas 14). This analysis did not intend to evaluate the localized drainage across the roadways for any storm events.

## HYDROLOGY

The hydrology used for this study is the current effective HEC-HMS model, which was obtained from the San Antonio River Authority (SARA) database. The 100 year and Ultimate 100-year discharges were used from this model. In addition, the model included a new 100-year discharge to account for the updated Atlas 14 rainfall data recently adopted by the City of San Antonio as best available data, effective on April 14, 2019. We obtained from SARA their Atlas 14 hydrologic update, including the aerial reduction spreadsheet. The spreadsheet from SARA is provided in the digital data for this report. The discharges used for this study are the following:

| River Station | 100 Year Current Effective (CFS) | 100 Year Ultimate Current Effective (CFS) | 100 Year Ultimate Atlas 14 (CFS) |
|---|---|---|---|
| 118668 | 39,452 | 42,325 | 48,974 |

The 100 Year Ultimate Atlas 14 discharge is slightly higher (2,917 CFS) than the discharge calculated in the previous GWC report.


8122 Datapoint Drive, Ste 840, San Antonio, Texas 78229
P: (210) 366-1988 | TBPE No. F-333 | TBPLS No. 10194506

HYDRAULICS

The hydraulic analysis was performed using the post-project models obtained from GWC, which included the addition of the Rittiman Road bridge and revised geometry data using the 2017 LiDAR within the effective FEMA model for Salado Creek. HEC-RAS 5.0.7 was utilized for the hydraulic simulations for this technical memorandum. The GWC HEC-RAS model was a truncated Salado Creek model, from Stations 118283 to 108864 and included the new Rittiman Road Bridge. Our updated model confirmed the bridge was inputted properly and included one additional cross section upstream (118668) to ensure the bridge was modeled properly. A review of the steady flow data did not find any discrepancies with the flow change locations, or the peak runoff values entered. The ultimate 100-year Atlas 14 peak runoff value of 48,974 cfs was added, and the downstream boundary condition was corrected to a slope of 0.0038 to match the slope of the last two cross sections. Maestas then evaluated the location and frequency of the cross sections, and generally agrees that they represent the Salado Creek within the project limits. The cross sections were evaluated and updated with the 2017 LiDAR data processed by Maestas which were found to have minor discrepancies.

The Manning's roughness coefficients within the hydraulic model provided by GWC was then compared to recent aerial imagery and field conditions for correctness. The GWC hydraulic model contained cross sections which had up to eleven roughness regions. Although this approach is not incorrect, there were roughness values that did not match the City of San Antonio Storm Water Design Criteria Manual (SWDCM). Therefore, the roughness coefficients for all the cross sections within the hydraulic model were revised to match the most recent aerial imagery following the SWDCM. These changes are shown in **Table 1**.

Following the hydraulic model provided by GWC and the DFIRM study, the simulation was executed using the steady state routine. A review of the resulting water surface elevations indicated that there was likely a spill occurring just downstream of the Rittiman Road bridge. To properly model the spill the two downstream cross sections (river stations 118062 and 117861) from the Rittiman Road bridge were truncated at the location of the spill within the right overbanks. Lateral Structure 117900 was added to the hydraulic model to measure the amount of runoff spilling from the right overbank area. The 2017 LiDAR data was used to generate the geometry for the lateral structure. Cross section 117449 and 116977, located just downstream of the lateral structure, were also truncated at the right overbank since they can contain all the design storms runoff from Salado Creek. Following the truncated cross sections, station 116498 represents the area where the spill and an additional waterway begins to flow towards Salado Creek. For this reason, cross section 116498 was not truncated and is like the original hydraulic model.

To generate the water surface elevations, a spill reach (Salado Creek – Spill) was created downstream of the lateral structure and parallel to Salado Creek. The spill reach was then connected to Salado Creek using a Junction within HEC-RAS located between cross section 116977 and 116498. The 2017 LiDAR was used to generate the geometric points for the Spill cross sections and recent aerial imagery was used to define the Manning's roughness values.

The results from the revised hydraulic model indicates that Salado Creek will spill just downstream of the Rittiman Road bridge during a 50-year or higher storm event. The updated model is provided in the digital data for this report. A comparison table between the current effective 100 year, updated 100-Year, updated 100 Year Ultimate, and the new 100 Year Ultimate Atlas 14 profiles are provided in **Table 2**. The resultant mapping of all storms is provided on the attached Floodplain Exhibit. As can be observed on this exhibit, the updated mapping for Salado Creek and the Spill reach produces similar but slightly narrower floodplains than the current effective mapping. Unfortunately, the updated floodplain mapping indicates the proposed roadways have significant

inundation at three locations, as shown on the Floodplain Exhibit. The Floodplain Exhibit provides depths of flow over the roadway at the three analysis points for the 100-year existing, ultimate, and Atlas 14 storm events. In addition, Table 3 provides depths for the ultimate 10, 25, 50, and 100-year Atlas 14 storm events. As summary of the depth analysis is the following:

- Analysis Point 1: This analysis point is at a small culvert crossing of the proposed roadway at station 12+20. The model indicates this crossing to be overtopped by the spill flow from Salado Creek with a max depth up to 3.47 feet. The results indicate this crossing is dry at the 25-year storm event but inundated at the 50-year storm event over 2 feet.
- Analysis Point 2: The low water crossing at roadway station 27+25 is inundated by the backwater of Salado Creek with a depth of 5.70 feet. An elevation of 669.33 was taken from Cross Section 116498 to delineate the backwater floodplain of Salado Creek. The results indicate this crossing is inundated for all storm events but is considered a safe crossing for the 10-year storm event with an inundation depth of 0.31 feet.
- Analysis Point 3: This point is at the east end of the proposed road. A water surface elevation of 666.67 was interpolated between Cross Sections 115502 and 115989. The natural ground elevation of 662.00 was used with the assumption the future roadway will match existing grades. The results indicate the future road will be overtopped as much as 5.09 feet and is inundated by the 25-year storm event. Results further indicate the road will be dry during the 10-year storm event.

As per the City's ordinance, these low water crossings are all considered in the dangerous category, due to the depths required for All Weather Crossings. Due to the significant backwater and spill flow from Salado Creek, it would require raising the roadway profile significantly and providing a large structure to convey flows to provide safe crossings. In addition to backwater, the low water crossing at roadway station 27+25 has off-site flows, including the spill flows, that will need to be conveyed across or within a culvert. If these crossing remain low water crossings, we recommend these locations be equipped with HALT alert systems with signage and flashing beacons to warn drivers of high water. The proposed roadway parallel to Winans Road will need to remain at grade as to not impact water surface elevations of Salado Creek. This roadway is expected to be inundated during large storm events; therefore, it is recommended this proposed roadway include a HALT alert system with signage and flashing beacons, as well. Preliminary HALT Sign locations are shown on the Floodplain Exhibit.

For this analysis, the tables and exhibits are provided as attachments to this memo. If you have any questions or need additional information, please contact me at (210) 381-6085 or by email at dhamilton@maesce.com.

Sincerely,
Maestas & Associates, LLC

Dwayne S. Hamilton, P.E., CFM
Vice President

4-06-2020

Attachments:
Table 1 - Current Effective and Proposed "N" Values
Table 2 - Water Surface Elevations Comparisons
Table 3 – Atlas 14 Analysis Point WSEL Comparisons
Exhibit 1 – Floodplain Exhibit
Digital Files

## TABLE 1

| MANNING'S N VALUE COMPARISON TABLE | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| XS | Effective FEMA | | | | | | | | Maestas Revised | | | | |
| | n #1 | n #2 | n #3 | n #4 | n #5 | n #6 | n #7 | n #8 | n #1 | n #2 | n #3 | n #4 | n #5 |
| **118668** | 0.035 | 0.065 | 0.045 | 0.1 | 0.05 | 0.1 | 0.035 | 0.045 | 0.07 | 0.075 | 0.065 | 0.095 | |
| **118283** | 0.035 | 0.075 | 0.045 | 0.1 | 0.05 | 0.1 | 0.045 | | 0.06 | 0.075 | 0.08 | 0.065 | 0.095 |
| **118165*** | 0.03 | 0.1 | 0.05 | 0.1 | 0.03 | | | | 0.065 | 0.075 | 0.065 | 0.095 | |
| **118088** | 0.035 | 0.045 | 0.1 | 0.05 | 0.1 | 0.045 | | | 0.075 | 0.08 | 0.065 | | |
| **117861** | 0.035 | 0.1 | 0.05 | 0.1 | 0.055 | | | | 0.07 | 0.095 | 0.08 | 0.095 | 0.055 |
| **117449** | 0.055 | 0.035 | 0.1 | 0.05 | 0.09 | 0.055 | 0.045 | 0.055 | 0.085 | 0.08 | 0.095 | | |
| **116977** | 0.065 | 0.035 | 0.1 | 0.05 | 0.1 | 0.055 | | | 0.075 | 0.08 | 0.095 | | |
| **2398*** | | | | | | | | | 0.05 | 0.075 | 0.095 | | |
| **2112*** | | | | | | | | | 0.05 | 0.075 | 0.095 | | |
| **1789*** | | | | | | | | | 0.05 | 0.075 | 0.095 | | |
| **1439*** | | | | | | | | | 0.05 | 0.075 | 0.095 | | |
| **116498** | 0.045 | 0.09 | 0.035 | 0.1 | 0.05 | 0.1 | 0.055 | 0.045 | 0.095 | 0.08 | 0.095 | | |
| **115989** | 0.045 | 0.09 | 0.05 | 0.1 | 0.055 | 0.045 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **115502** | 0.055 | 0.09 | 0.05 | 0.1 | 0.055 | | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **115023** | 0.055 | 0.1 | 0.05 | 0.1 | 0.055 | | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **114530** | 0.065 | 0.03 | 0.1 | 0.05 | 0.1 | 0.055 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **114057** | 0.055 | 0.075 | 0.1 | 0.05 | 0.1 | 0.055 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **113552** | 0.065 | 0.045 | 0.1 | 0.05 | 0.1 | 0.065 | 0.055 | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **113038** | 0.065 | 0.045 | 0.1 | 0.05 | 0.1 | 0.065 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **112527** | 0.05 | 0.045 | 0.1 | 0.05 | 0.1 | 0.065 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **111915** | 0.065 | 0.035 | 0.045 | 0.1 | 0.05 | 0.1 | 0.065 | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **111346** | 0.045 | 0.1 | 0.05 | 0.1 | 0.075 | 0.065 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **110778** | 0.045 | 0.085 | 0.05 | 0.1 | 0.09 | 0.065 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **110298** | 0.085 | 0.05 | 0.1 | 0.055 | 0.1 | 0.065 | | | 0.095 | 0.08 | 0.095 | 0.055 | |
| **109805** | 0.045 | 0.085 | 0.05 | 0.1 | 0.06 | 0.09 | 0.065 | | 0.095 | 0.08 | 0.095 | | |
| **109324** | 0.045 | 0.085 | 0.05 | 0.1 | 0.09 | 0.055 | 0.075 | 0.055 | 0.055 | 0.08 | 0.095 | | |
| **108864** | 0.045 | 0.1 | 0.05 | 0.1 | 0.075 | | | | 0.05 | 0.08 | 0.095 | | |

* Spillway Reach

**TABLE 2**

| WSEL COMPARISON TABLE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| XS | Effective FEMA | | Maestas Revised | | | Comparison (Maestas-FEMA) | | |
| | 100yr Exist | 100yr Ult | 100yr Exist | 100yr Ult | 100yr A14 Ult | EX-EX | ULT-ULT | A14-ULT |
| | **A** | **B** | **C** | **D** | **E** | **C-A** | **D-B** | **E-B** |
| **118668** | 672.64 | 673.07 | 673.88 | 674.36 | 675.5 | 1.24 | 1.29 | 2.43 |
| **118283** | 672.26 | 672.67 | 673.34 | 673.8 | 674.88 | 1.08 | 1.13 | 2.21 |
| **118165*** | 672.16 | 672.57 | 673.13 | 673.57 | 674.63 | 0.97 | 1.00 | 2.06 |
| **118088*** | 671.96 | 672.37 | 672.64 | 673.06 | 674.06 | 0.68 | 0.69 | 1.69 |
| **117861*** | 671.05 | 671.46 | 671.74 | 672.1 | 673.07 | 0.69 | 0.64 | 1.61 |
| **117449*** | 670.5 | 670.89 | 670.83 | 671.14 | 671.95 | 0.33 | 0.25 | 1.06 |
| **116977*** | 669.73 | 670.09 | 669.79 | 670.03 | 670.73 | 0.06 | -0.06 | 0.64 |
| **2398**** | | | 671.48 | 671.75 | 672.75 | | | |
| **2112**** | | | 669.55 | 670.35 | 672.14 | | | |
| **1789**** | | | 668.87 | 669.29 | 670.23 | | | |
| **1439**** | | | 668.86 | 669.23 | 669.86 | | | |
| **116498** | 668.18 | 668.52 | 668.1 | 668.71 | 669.33 | -0.08 | 0.19 | 0.81 |
| **115989** | 666.39 | 666.74 | 666.24 | 666.74 | 667.9 | -0.15 | 0.00 | 1.16 |
| **115502** | 664.77 | 665.12 | 665.21 | 665.68 | 666.81 | 0.44 | 0.56 | 1.69 |
| **115023** | 662.61 | 663.04 | 664.45 | 664.92 | 665.98 | 1.84 | 1.88 | 2.94 |

* Effective Cross Section Modified

** Spillway Reach

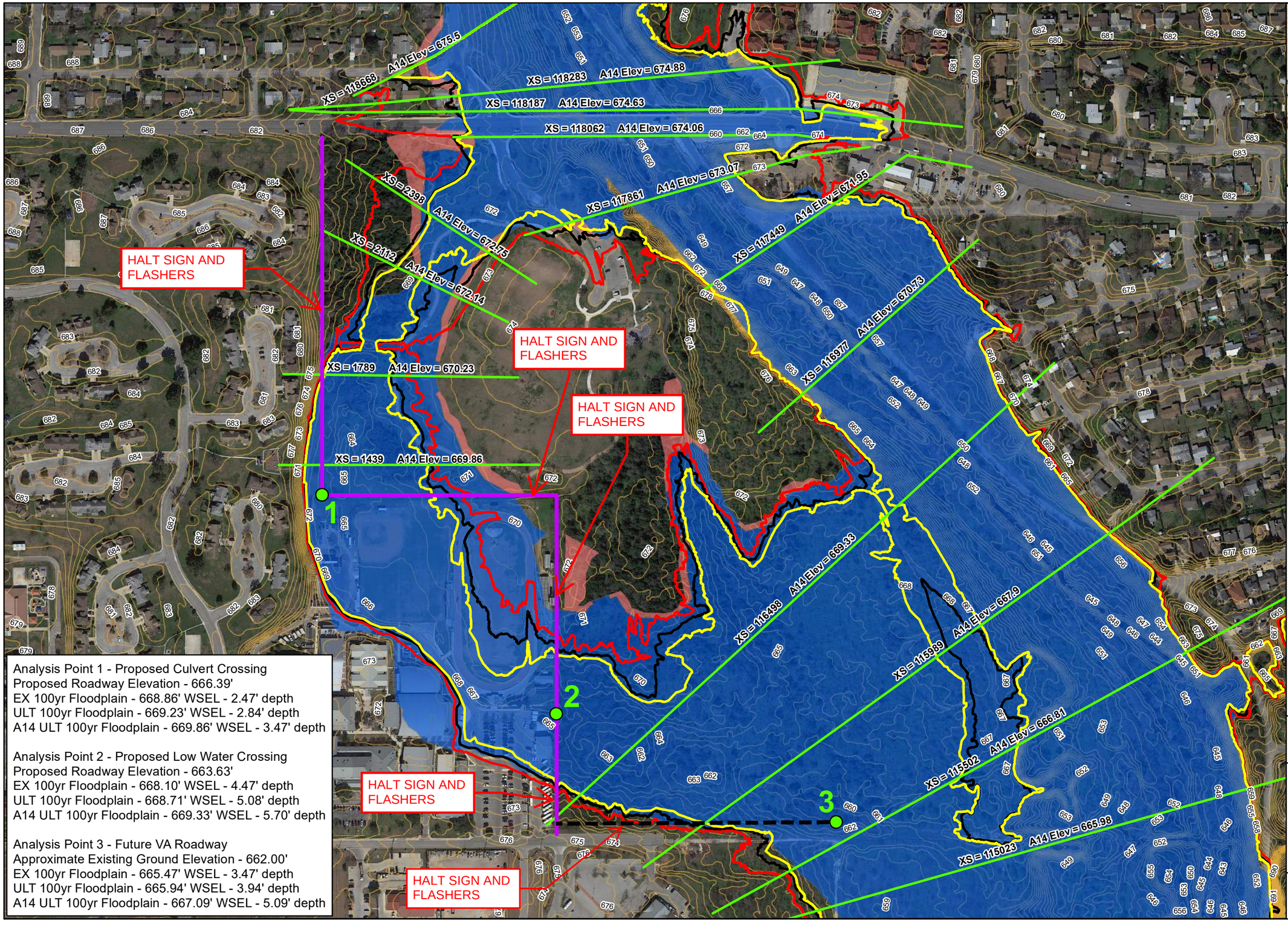
# TABLE 3

| ATLAS 14 ANALYSIS POINT WSEL COMPARISON | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Analysis Point 1<br>Prop Elev = **666.39**' | Spill Flow WSEL (XS 1439) | | | | | Backwater WSEL (XS 116498) | | | | |
| | 10-YR EX | 25-YR EX | 50-YR EX | 100-YR EX | 100-YR ULT | 10-YR EX | 25-YR EX | 50-YR EX | 100-YR EX | 100-YR ULT |
| WSEL (ft) | X | X | 668.62 | 669.52 | 669.86 | 663.94 | 666.26 | 667.88 | 668.97 | 669.33 |
| Depth (ft) Over RD | X | X | 2.23 | 3.13 | 3.47 | 'N/A' | 'N/A' | 1.49 | 2.58 | 2.94 |

| Analysis Point 2<br>Prop Elev = **663.63**' | Backwater WSEL (XS 116498) | | | | |
|---|---|---|---|---|---|
| | 10-YR EX | 25-YR EX | 50-YR EX | 100-YR EX | 100-YR ULT |
| WSEL (ft) | 663.94 | 666.26 | 667.88 | 668.97 | 669.33 |
| Depth (ft) Over RD | 0.31 | 2.63 | 4.25 | 5.34 | 5.70 |

| Analysis Point 3<br>Exist Elev = **662.00**' | WSEL (Interpolation - XS 115989, 115502) | | | | |
|---|---|---|---|---|---|
| | 10-YR EX | 25-YR EX | 50-YR EX | 100-YR EX | 100-YR ULT |
| WSEL (ft) | 661.63 | 663.86 | 665.27 | 666.67 | 667.09 |
| Depth (ft) Over RD | 'N/A' | 1.86 | 3.27 | 4.66 | 5.09 |

| **Safe and Unsafe Crossings** |
|---|
| **Per Section 4.3.1C(4) in Appendix H** |
| Unsafe Crossing |
| Safe Crossing |




Analysis Point 1 - Proposed Culvert Crossing
Proposed Roadway Elevation - 666.39'
EX 100yr Floodplain - 668.86' WSEL - 2.47' depth
ULT 100yr Floodplain - 669.23' WSEL - 2.84' depth
A14 ULT 100yr Floodplain - 669.86' WSEL - 3.47' depth

Analysis Point 2 - Proposed Low Water Crossing
Proposed Roadway Elevation - 663.63'
EX 100yr Floodplain - 668.10' WSEL - 4.47' depth
ULT 100yr Floodplain - 668.71' WSEL - 5.08' depth
A14 ULT 100yr Floodplain - 669.33' WSEL - 5.70' depth

Analysis Point 3 - Future VA Roadway
Approximate Existing Ground Elevation - 662.00'
EX 100yr Floodplain - 665.47' WSEL - 3.47' depth
ULT 100yr Floodplain - 665.94' WSEL - 3.94' depth
A14 ULT 100yr Floodplain - 667.09' WSEL - 5.09' depth


## LOCATION MAP
N.T.S.

**FT Sam ISD**

**LEGEND**

- Project Location
- XS
- Future VA Roadway
- 100yr Existing
- 100yr Ultimate
- 100yr A14 Ultimate

**Effective FEMA ZONE**

- 100yr Future
- A
- AE
- 1' Contour

**Floodplain Exhibit**

N
W E
S

1 inch = 300 feet

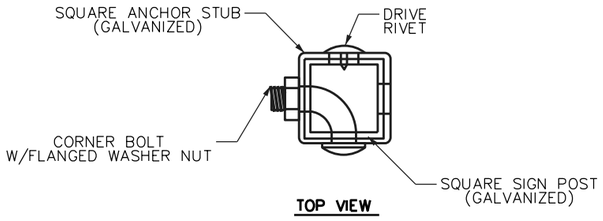
MAESTAS

Project Number: 15-02-2017

Z:\Projects\M133 Fort Sam Roadway - GW\06 - CADD Files\06.25 - GIS\MXD\Floodplain Exhibit.mxd

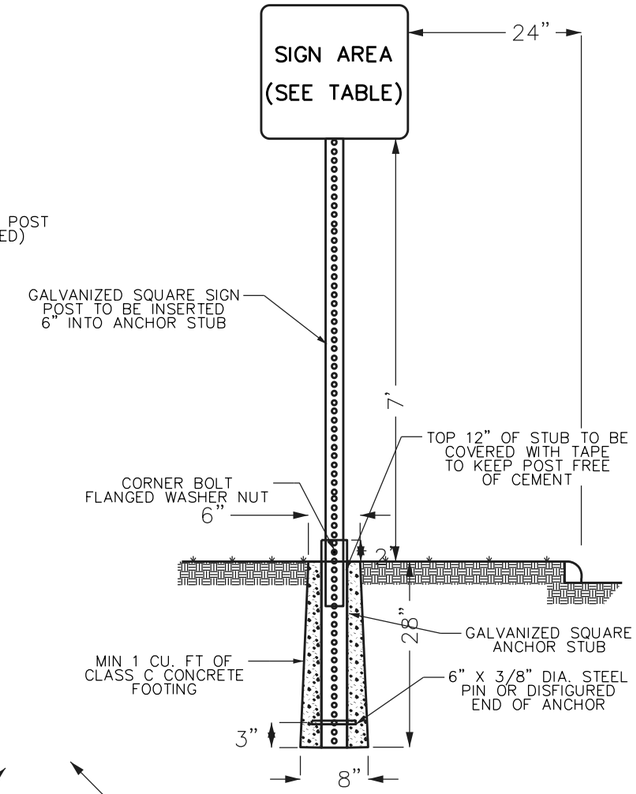
ATTACHMENT 2

DETAIL OF HALT SIGN WITH FLASHING BEACONS

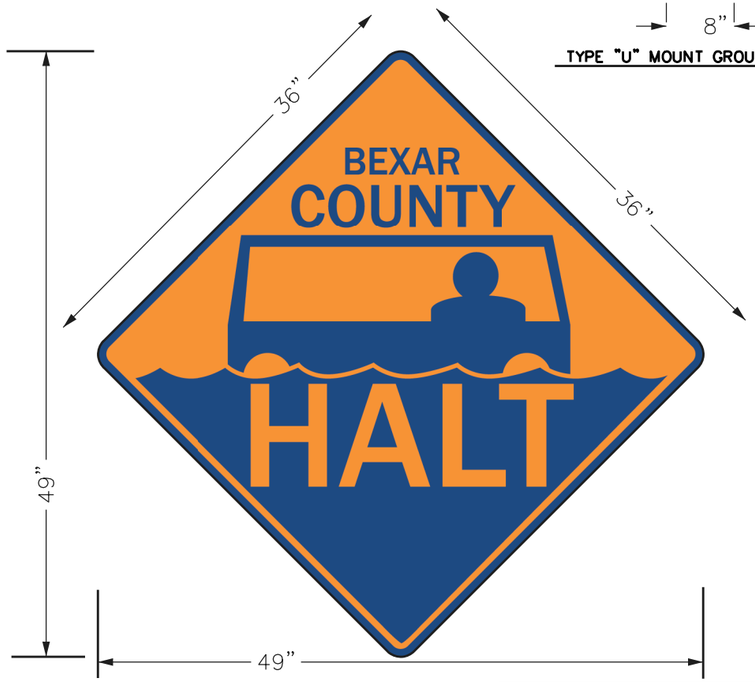



TOP VIEW

3/8" X 1/2" DRIVE RIVET

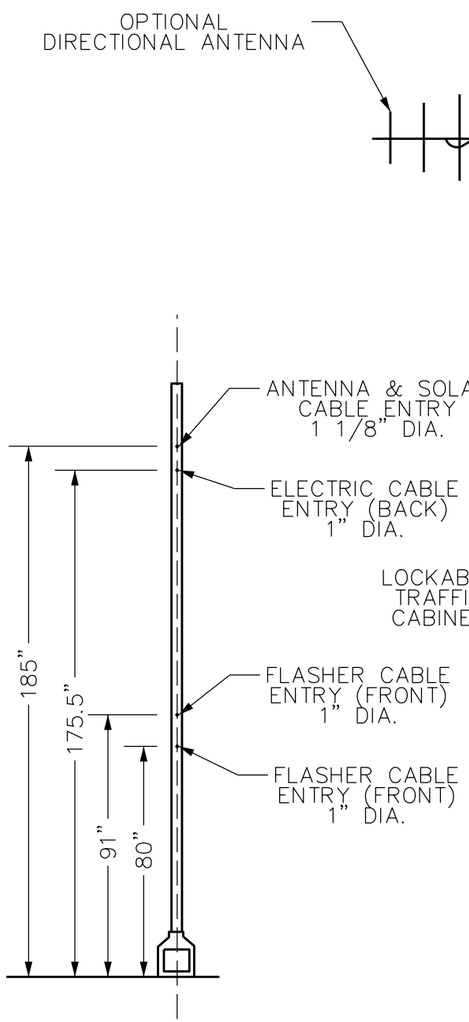


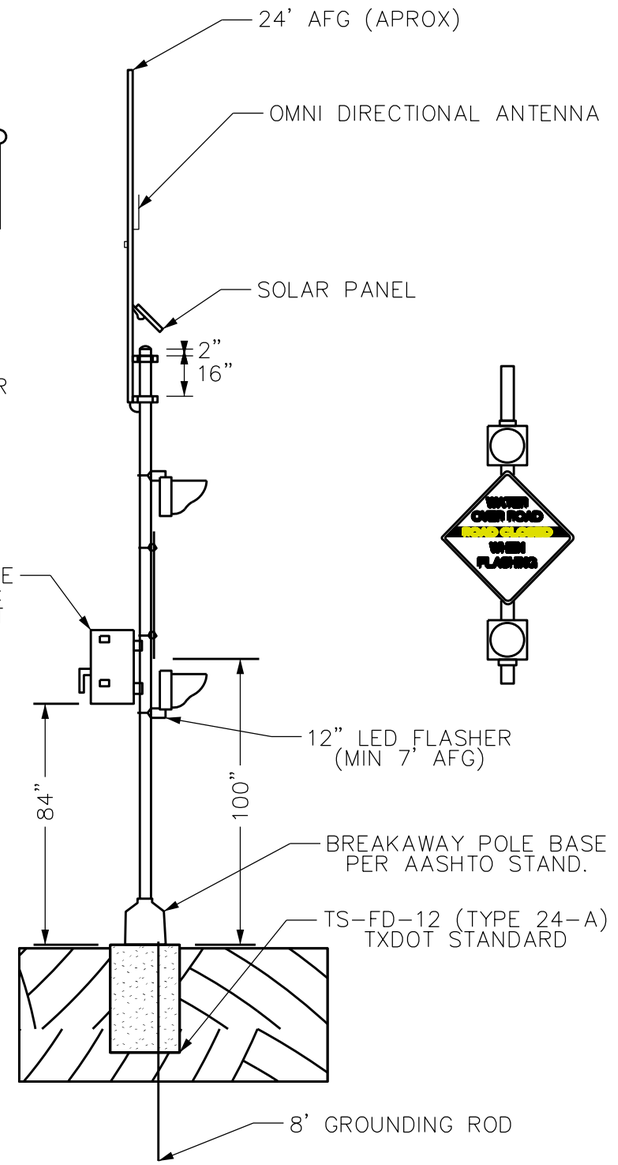

TYPE "U" MOUNT GROUND SIGN




| METAL TUBING | SIGN AREAS | |
|---|---|---|
| | 10 SQ FT OR LESS | MORE THAN 10 SQ FT |
| GALVANIZED SQUARE SIGN POST (PERFORATED) | 1-3/4" X 1-3/4" (14 GAUGE) | 2" X 2" (12 GAUGE) |
| GALVANIZED SQUARE ANCHOR STUB (PERFORATED) | 2" X 2" (14 GAUGE) | 2-1/4" X 2-1/4" (14 GAUGE) |

THE ABOVE INFORMATION WAS TAKEN FROM THE CITY OF SAN ANTONIO PUBLIC WORKS DEPARTMENT -GENERAL NOTES AND GROUND SIGN MOUNTING DETAILS







ATTACHMENT No. 2

GARCIA & WRIGHT CONSULTING ENGINEERS,INC.
REGISTRATION NO. F-1802
407 W. RHAPSODY, SAN ANTONIO, TX., 78216
(210)349-5253 (210)349-0715 WWW.GARCIAWRIGHT.COM

CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS (TCI) DEPARTMENT

FORT SAM ISD NEW ROADWAY
WINANS ROAD TO RITTIMAN ROAD

# GROUND SIGN INSTALATION (TYPICAL)

| | | | |
|---|---|---|---|
| 100% SUBMITTAL | PROJECT NO.: 23-01581 | | DATE: 02-20-2020 |
| DRWN. BY: ALT | DSGN. BY: ALT | CHKD. BY: RHG Jr | SHT NO.: 02 OF 15 |

# ATTACHMENT 3

# OUTREACH AND COMMUNICATION WITH STAKEHOLDERS

## Sean Strong (PWD)

**From:** Sean Strong (PWD)
**Sent:** Thursday, April 30, 2020 1:54 PM
**To:** Sean Strong (PWD)
**Subject:** FW: [EXTERNAL] Ft Sam ISD New Roadway - Maestas Floodplain Mapping Technical Memo / Study

To Whom It May Concern:

As noted below, Cole High School's main access is from Harry Wurzbach Road. The proposed Ft. Sam ISD New Roadway project provides a secondary access route to Cole High School for large school events to improve accessibility during such events.

Thank you,

**Sean D. Strong, P.E.**
**Senior Engineer/ Project Manager**
Public Works Department
Mailing: P.O. Box 839966 | San Antonio, TX 78283-3966
Work: 114 W. Commerce Street, #520|San Antonio, TX 78205
O: 210.207.8037 | F: 210.207.7196
www.sanantonio.gov/tci

CITY OF SAN ANTONIO
PUBLIC WORKS
DEPARTMENT

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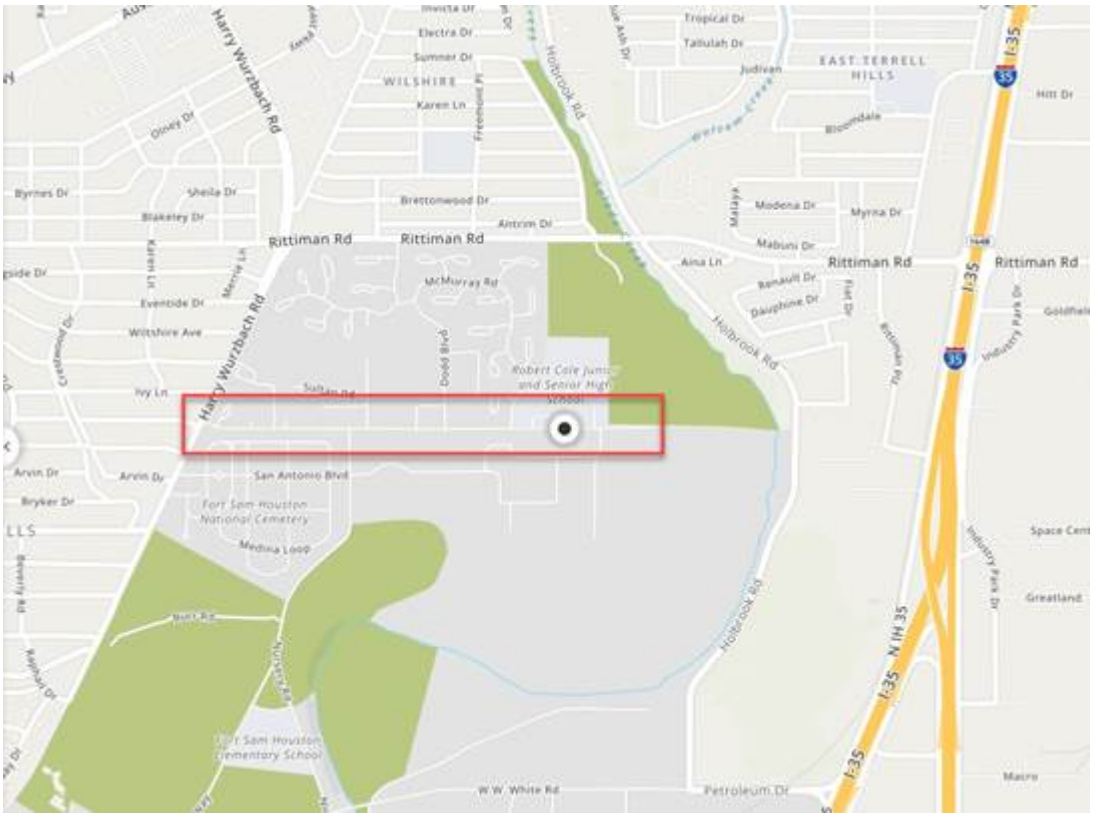
**From:** Novak, Julie [mailto:jnovak@fshisd.net]
**Sent:** Wednesday, February 19, 2020 7:42 AM
**To:** Sean Strong (TCI); SMITH, WILEY E GS-12 USAF AETC 502 CES/CEPD; WIMBERLEY, JAMES W GS-13 USAF AETC 502 CES/CENP; Morgan, Don N CIV USAF 502 ISG (USA); BAISH, CHARLES F III CIV US Air Force 802 CES 802 CIVIL ENGINEER SQ/JB San Antonio
**Cc:** Smith, Wiley E CIV USAF (USA); Juan Contreras (TCI); Zachry Kircus (TCI); Richard Grochowski (TCI); David McBeth (TCI)
**Subject:** RE: [EXTERNAL] Ft Sam ISD New Roadway - Maestas Floodplain Mapping Technical Memo / Study

Sean – Our primary access to/from Cole High School will remain as Winans Road to Harry Wurzbach Road. See area in red triangle below.




*Julie P. Novak, RTSBA*
Chief Financial Officer
Fort Sam Houston ISD
4005 Winans Road, San Antonio, TX 78234
O 210-368-8705 | F 210-368-8741 | M 210-559-9309

*The school is the last expenditure upon which America should be willing to economize.*
*Franklin D. Roosevelt*

**City of San Antonio**
P.O. Box 839966
San Antonio, TX 78283-3966

# PREPLANREV Application

**Report Date** 05/29/2020 07:22 AM **Submitted By** 

**A/P #** 10228 PRELIMINARY PLAN REVIEW

## Applicants/Contacts

**Primary** Y **Capacity** APPL **Contact ID** AC436869 ☐ **Foreign**
**Effective** **Expire**
**Name** RAUL H GARCIA
**Day Phone** **Eve Phone** **Organization** GARCIA & WRIGHT CONSULTING ENG
**Pager** **PIN #** **Position**
**Fax** **Mobile** **Profession**
**E-Mail**
**Address** 407 W RHAPSODY
SAN ANTONIO, TX 78216
**Comments**

**Addition Info**

**Contact Creation Date:** 05/20/2020 11:25
**PIN:** 0 **Contact Record Creator:** 144124
**Drivers License:**
**State** **Background Check:**
**Number**
**Boarding Home:**
**City Customer ID** 0 **Boarding Home Status:**
**Full contact name:** **Boarding Home Status Dt:**

**CNTCTKEY** 437395

**No Comments**

## Contractors

No Contractors

| Fees | Status | Paid Date | Amount |
|---|---|---|---|
| PROJECT ADMIN EXCEPTION VARIANCE REQUEST | P | 05/26/2020 15:30 | 350.00 |
| | **Total Unpaid** 0.00 | **Total Paid** | 350.00 |

| Template Type | A/P # | A/P Type | Status | Stage |
|---|---|---|---|---|

No children exist for this project

| Employee ID | Last | First | MI | Comments |
|---|---|---|---|---|

No Employee Entries

| Log Action | Description | Entered By | Start | Stop | Hours | Comments |
|---|---|---|---|---|---|---|

No Log Entries