

CDBG Mitigation Grant Application Project: Memorial Medical Center Hospital Facility Improvements

Scope of Work: This proposed project will make Memorial Medical Center Hospital more resilient and better able to reliably function during and after future weather disasters. Due to its age, the hospital has significant areas of concern that do not meet current health and safety codes. Building a new hospital is too costly and not an option. Replacing inadequate equipment and bringing damage prone aspects of the building up to current codes and standards is the goal of this project.

The hospital was constructed in 1950. Expansions/renovations were last made in 1962, 1992, and 1995. The tar and gravel roof has exceeded its expected useful life and is no longer in serviceable condition. The flat roof and inadequate drain size area have led to increased leaks in the roof, as well as damage to the structure of the roof. The rock ballast is no longer code compliant as it can become wind borne and destructive when subject to tropical storms or hurricanes. The HVAC system is in poor condition. Much of the equipment was installed in 1992-1993. All system components are past the end of their respective life cycles. The central plant chillers and cooling tower fill-media need to be replaced and the boilers for the hot water system need to be fitted with new pumps. The air handling units are currently exposed to the elements and are needing to be replaced due to inadequate protection and security. The floor-to-ceiling commercial window units appear to be the original installations in 1962 and 1993. The windows do not meet windstorm requirements. Sealant edges and previous caulking repairs are brittle and peeling away, which leaves the windows highly susceptible to windblown debris and rain. A permanent record retention storage facility, owned by Calhoun County, is needed. Currently, medical and administrative files are split among six separate storage rental locations in Port Lavaca. The best solution for the retention of hospital records is deemed to be a new climate-controlled storage facility, windstorm rated and built above the flood plain.

This has a County-wide and regional benefit.



CDBG-MIT: Budget Justification of Retail Costs (Former Table 2)

Cost Verification Controls must be in place to assure that construction costs are reasonable and consistent with market costs at the time and place of construction.

Applicant/Subrecipient:	Calhoun County					
Site/Activity Title:	Memorial Medical Center Hospital Public Facility Improvement					
Eligible Activity:						
Materials/Facilities/Services	\$/Unit	Unit	Quantity	Construction	Acquisition	Total
Total Roof Replacement & Associated Improvements Including Drainage	\$ 2,500,000.00	LS	1	\$ 2,500,000.00	\$ -	\$ 2,500,000.00
Install Windstorm Rated and Impact resistant Windows	\$ 3,000,000.00	LS	1	\$ 3,000,000.00	\$ -	\$ 3,000,000.00
Construction of Record Keeping Building	\$ 150,000.00	LS	1	\$ 150,000.00	\$ -	\$ 150,000.00
HVAC - Electrical Improvements for HVAC upgrades	\$ 500,000.00	LS	1	\$ 500,000.00	\$ -	\$ 500,000.00
HVAC -Central Plant	\$ 1,100,000.00	LS	1	\$ 1,100,000.00	\$ -	\$ 1,100,000.00
HVAC -Controls	\$ 550,000.00	LS	1	\$ 550,000.00	\$ -	\$ 550,000.00
HVAC -Packaged Terminal Units	\$ 200,000.00	LS	1	\$ 200,000.00	\$ -	\$ 200,000.00
HVAC -Fancoil Units	\$ 100,000.00	LS	1	\$ 100,000.00	\$ -	\$ 100,000.00
HVAC -Packaged Roof Top Units	\$ 100,000.00	LS	1	\$ 100,000.00	\$ -	\$ 100,000.00
HVAC - Duct work	\$ 200,000.00	LS	1	\$ 200,000.00	\$ -	\$ 200,000.00
HVAC - Air Handlers	\$ 800,000.00	LS	1	\$ 800,000.00	\$ -	\$ 800,000.00
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	\$ -		0	\$ -	\$ -	\$ -
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	\$ -		0	\$ -	\$ -	\$ -
TOTAL	\$ 9,200,000.00			\$ 9,200,000.00	\$ -	\$ 9,200,000.00

1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.

Annual Projected Maintenance projected to be approximately \$10,000.00 per year after standard warranty expires

2. Identify and explain any special engineering activities.

None Known



Date: 10/02/2020
Phone Number: 361-552-4509

Scott P. Mason, P.E.
Signature of Registered Engineer/Architect
Responsible For Budget Justification:

MEMO

To: Calhoun County

From: G&W Engineers, Inc.

Date: October 02, 2020

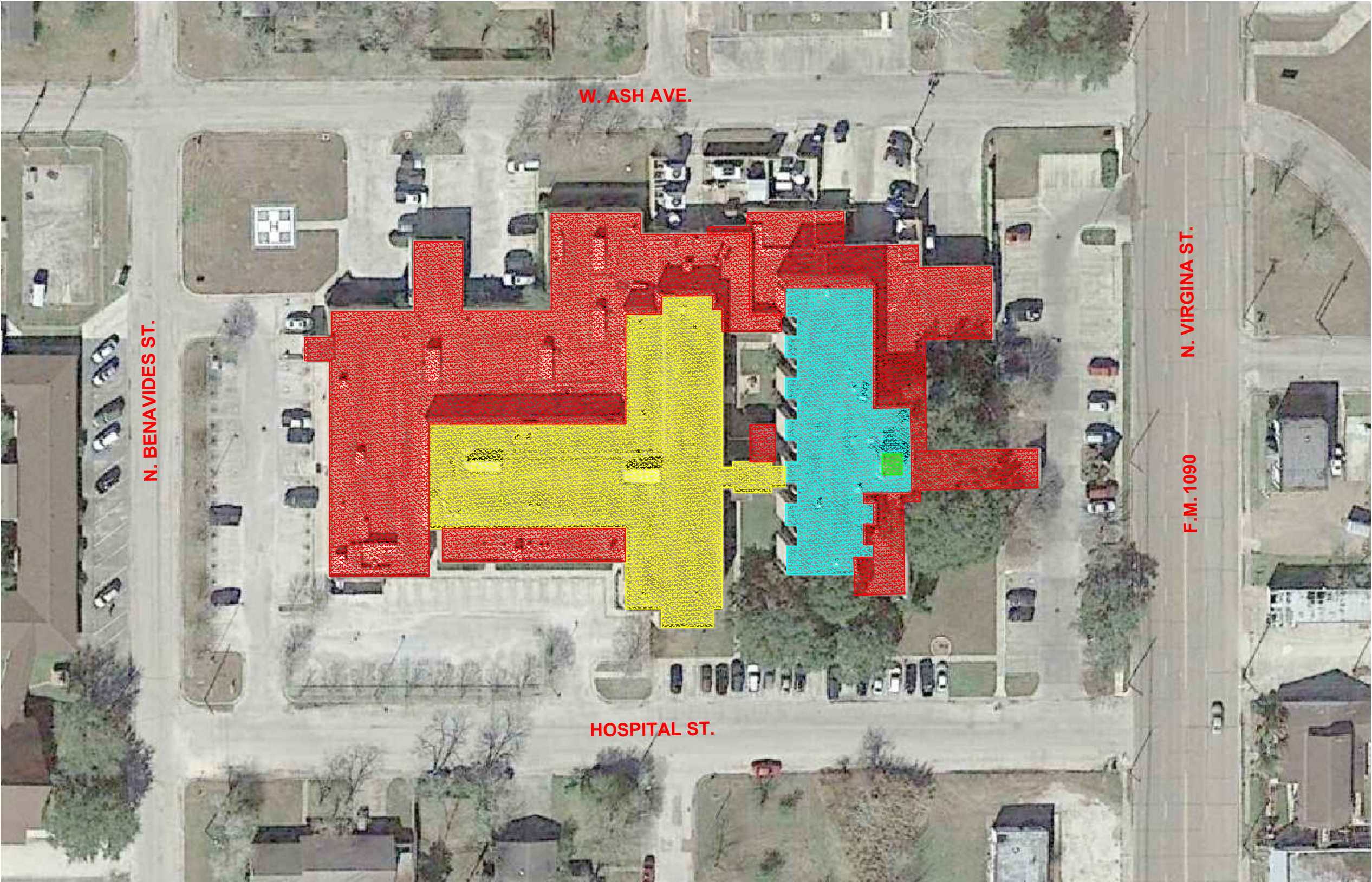
RE: Engineering Justification Memo for Calhoun County Memorial Medical Roof Replacement, Window Replacement, HVAC Replacement and Records Storage Facility

The Memorial Medical Center Facility is located in the City of Port Lavaca, Calhoun County in South East Texas along the coast of the Gulf of Mexico. The hospital is currently owned by Calhoun County. Due to the hospital being located in a coastal town and within a windstorm county, storm events like hurricanes and tropical storms often have an impact on the facility. Also, being that the building is considered to be critical infrastructure according to ASCE Standard 7 and the age of the facility, the hospital has significant areas of concern that do not meet current codes, but have been grandfathered due to its age. New hospitals would be required to be constructed of much greater standards than the older facility is now. Being that total hospital replacement and new facility is too costly and not an option, bringing these damage prone aspects of the existing building up to current codes and standards is the goal of this project submission.

Calhoun County is a designated catastrophe area according to TDI and is certainly susceptible to potentially damaging coastal windstorm events. This project will mitigate future impacts and increase the resiliency of the existing hospital.

Past

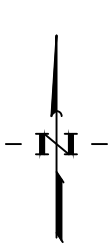
The roof has been regularly maintained and repaired when necessary throughout the years. The facility has constantly incurred damages and expenses over the years from storm events and disasters. Some areas that have been constantly damaged and a concern through these events are the roof system, the windows, the HVAC equipment and the record storage methods. The flat roof and current drain size area not adequate for heavy rainfall events and have led to increased leaks in the roof, as well as, damage to the structure of the roof. The roof has been constantly repaired and maintained over the years after these events. Windows that connect to or near the roof to also incur damages from the leaks and inadequacy of drainage and have been repaired after events. The HVAC equipment has been maintained and repaired over the years after storms but have remained susceptible to damage as they are not secured meeting windstorm requirements. Through roof penetrations for the equipment do not meet current codes and have also been impacted by flooding of the roof, which is in large part due to the inadequacy in roof drains. All portions have been properly maintained in the past.



LEGEND :

- ~ROOF LEVEL 1
- ~ROOF LEVEL 2
- ~ROOF LEVEL 3
- ~ROOF LEVEL 4

OVERALL PLAN



PRELIMINARY

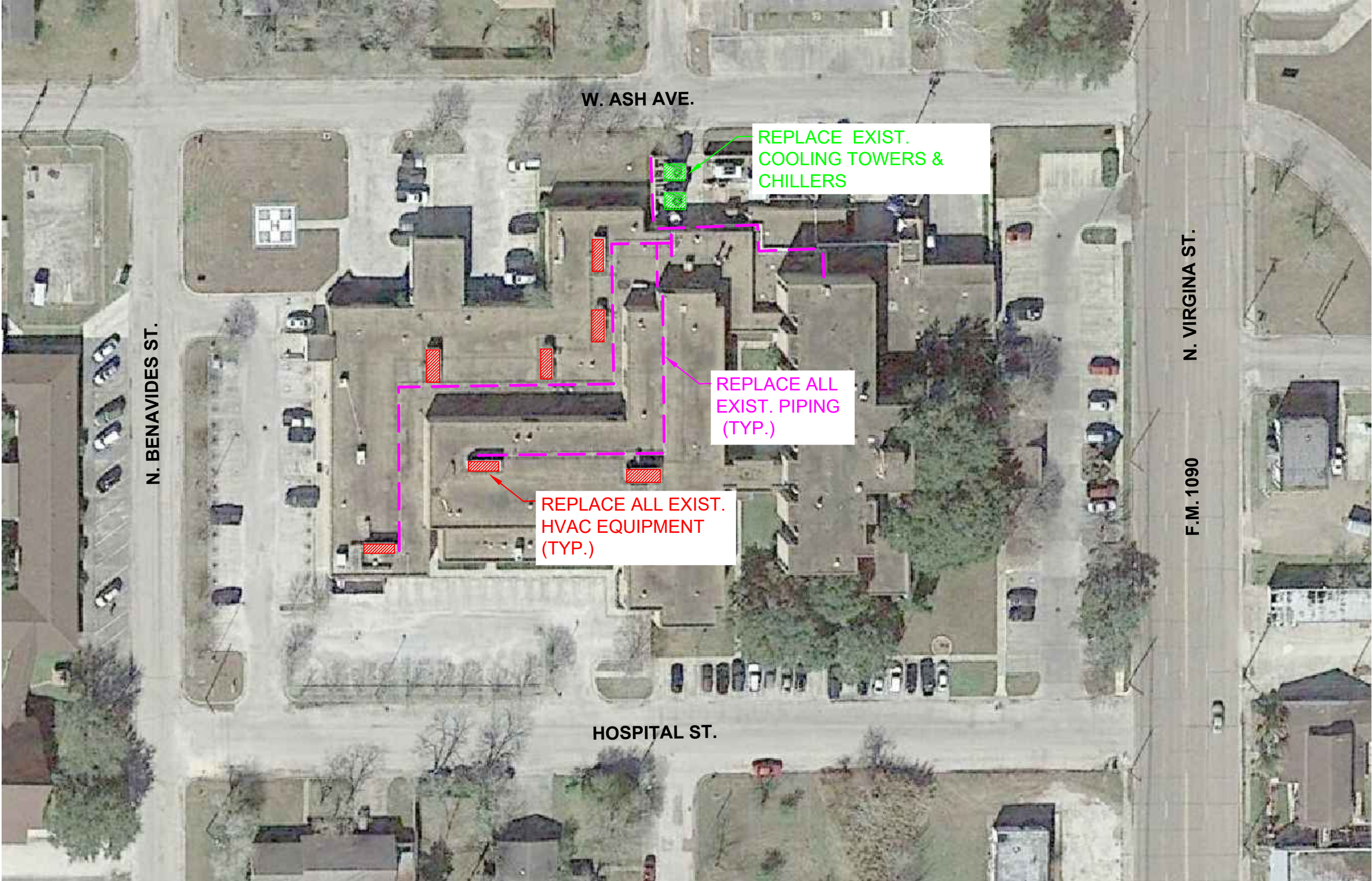
CALHOUN COUNTY
HOSPITAL ROOF REPLACEMENT

CALHOUN COUNTY, TEXAS
GLO-CDBG-DR APPLICATION

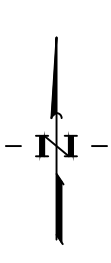
G & W ENGINEERS, INC.
ENGINEERING • SURVEYING • PLANNING
205 W. LIVE OAK STREET, PORT LAVACA, TEXAS 77979
TBPE FIRM NO.: F04188
(361) 552-4509: PORT LAVACA (979) 323-7100: BAY CITY

DRAWN BY:
S.P.M.
CHECKED BY:
S.P.M.
DATE:
SEP. 22, 2020

SCALE:
NTS
JOB NO.:
5310.013
SHEET NO.:
1



NOTE: NOT ALL ITEMS SHOWN
FOR CLARITY.



PRELIMINARY

CALHOUN COUNTY HOSPITAL HVAC

CALHOUN COUNTY, TEXAS
GLO-CDBG-DR APPLICATION

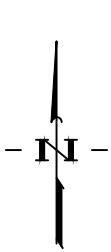
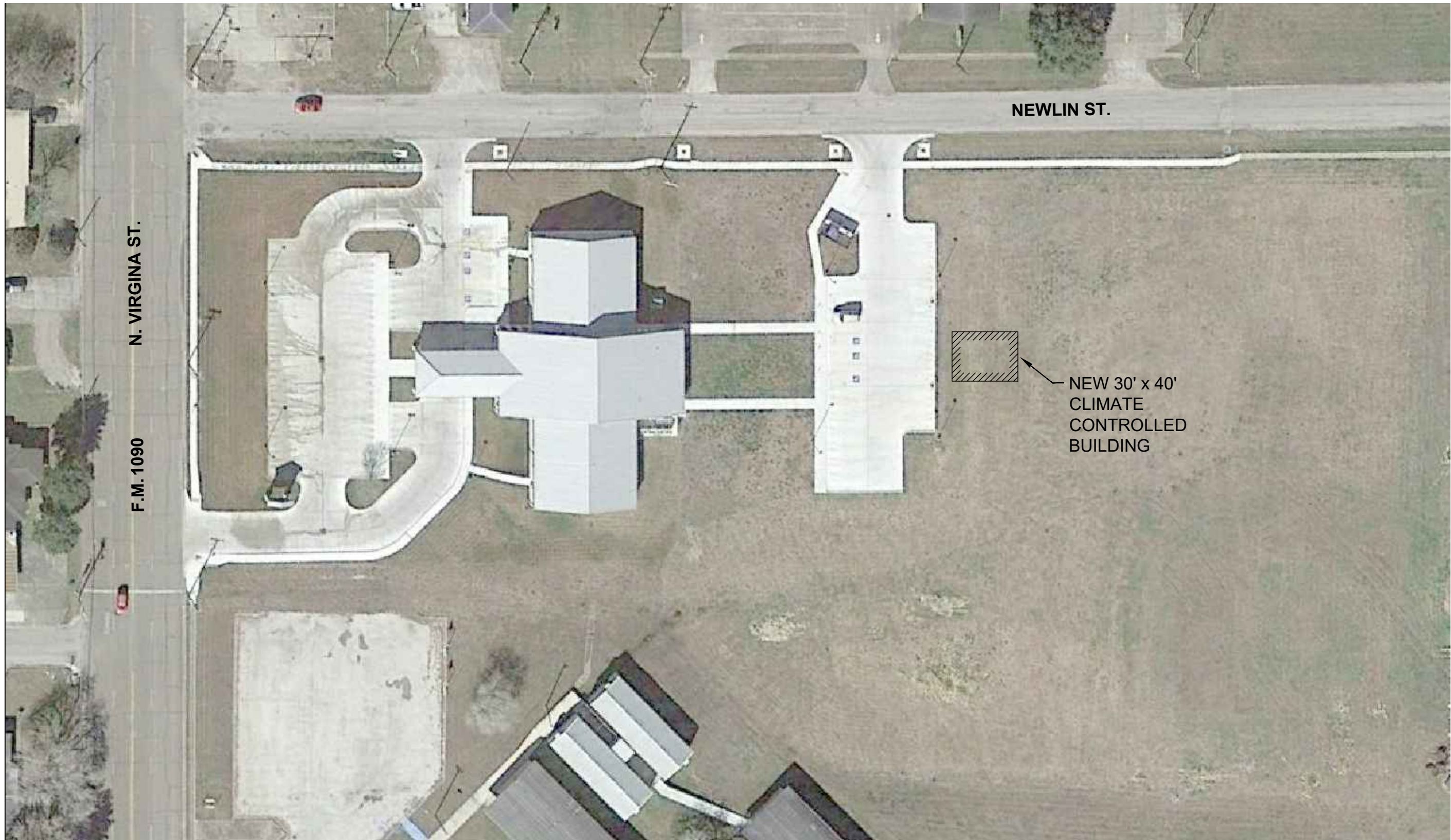
G & W ENGINEERS, INC.

● ENGINEERING ● SURVEYING ● PLANNING ●

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PRELIMINARY

CALHOUN COUNTY HOSPITAL RECORDS STORAGE BUILDING

CALHOUN COUNTY, TEXAS
GLO-CDBG-DR APPLICATION

G & W ENGINEERS, INC.

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Present

The roof has been maintained at its current state for as long as possible but the serviceability of the existing roof is non-existent and needs to be replaced. Recently there has been a study performed on the best way to fix the roof leaking and the possibility to extend the life expectancy of the current roof. The outcome of the study was that the current roof has reached year 28 out of its 20-year projected life expectancy and is no longer serviceable. The windows of the hospital currently are leaking, some have signs of cracks, and the sealant edge and previous caulking repairs are brittle and peeling away causing the need for replacement of the windows of the building. The current windows and their attachments from frame to building do not meet windstorm requirements. This leaves the windows highly susceptible to windblown debris and rain.

A study on the HVAC system was performed to determine the potential for repair or replacement options required to mitigate future damages. The study found that all of the System Components are past the end of their respective life cycles and need to be replaced. Many of the system components are now considered out-dated and dysfunctional even with the numerous repair attempts to the components.

The Memorial Medical Hospital is also currently in need of a new record retention storage location. Currently the files of the hospital are split between five or six separate storage facility rental locations throughout the City as the hospital has no designated room for the storage of records. During Hurricane Harvey (2017) one of the current record storage sites was heavily damaged and the entirety of the records stored at that location were unsalvageable.

Future

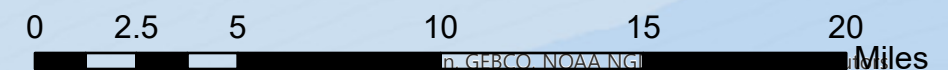
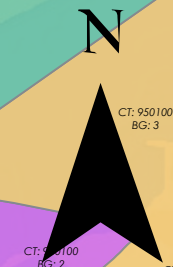
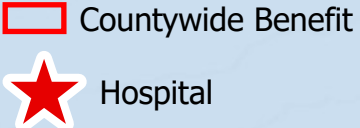
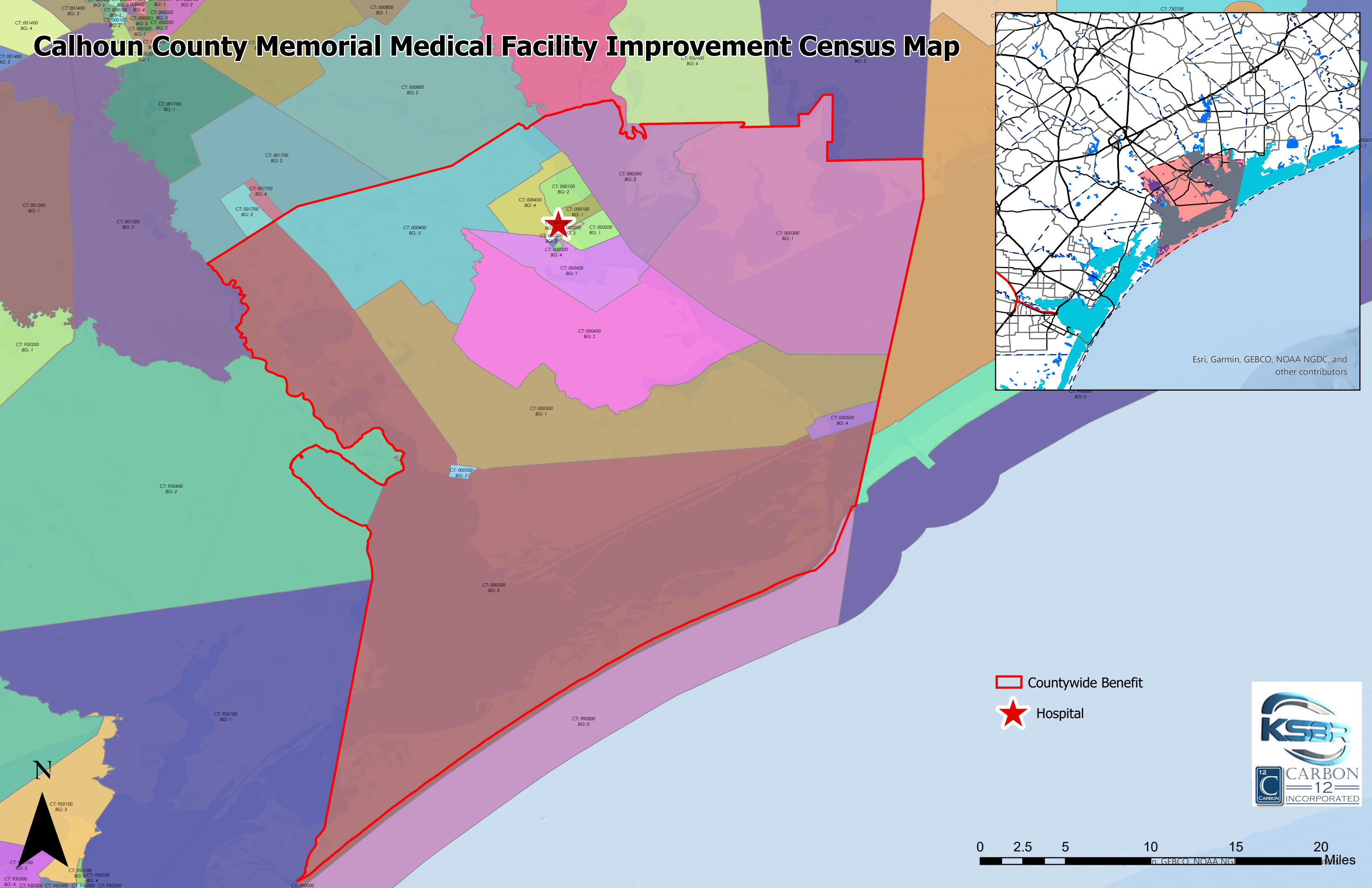
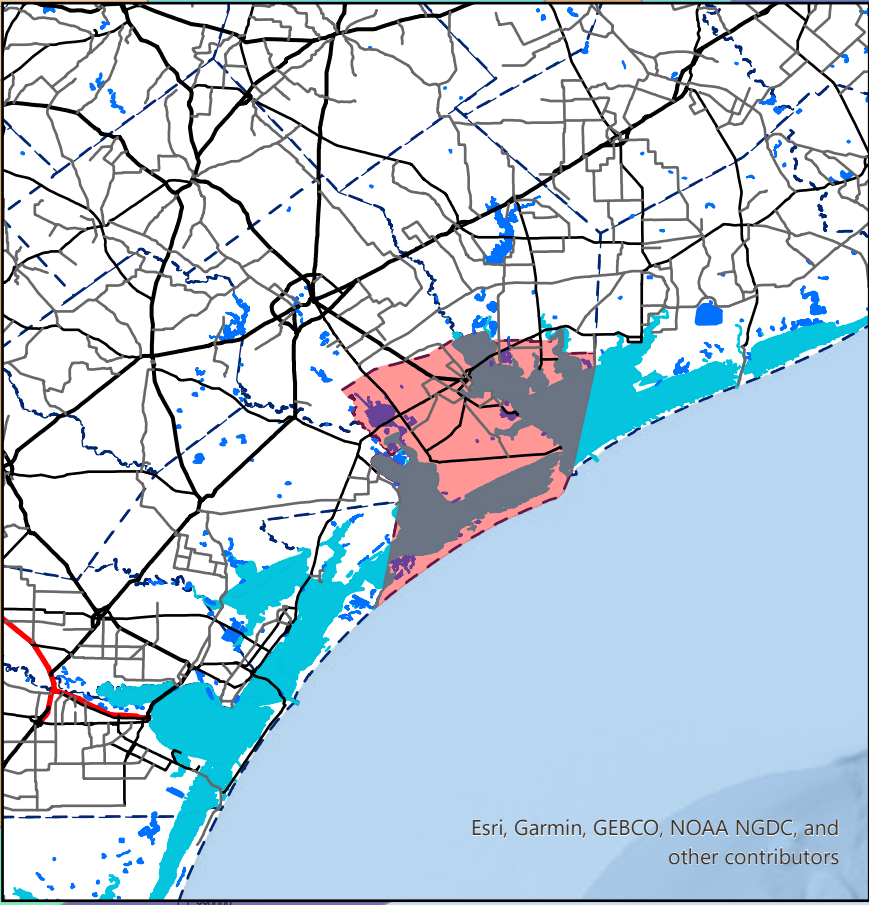
The roof of the Hospital needs to be replaced in order to ensure the safety of the patients, staff, and general public that enter into the facility. A new roof replacement will trigger several code requirements of the International Building Code that the new roof design will have to comply with. The new roof design will incorporate secondary roof scuppers to help with emergency overflow. The new roof will have an increase to the pitch of the roof to increase the rate of drainage of rain water off of the roof. Additional insulation will be added to the roof to meet the requirements of 2015 IECC as well as the roof will comply with solar reflectance and thermal emittance requirements to help the HVAC system. The roof will need to be designed to withstand the wind pressures in accordance with ASCE 7-10. A total of 19 code requirements will need to be met in the replacement of the roof. The windows of the building will need to be replaced and updated to be windstorm rated and impact resistant. This is necessary due to the current design of the building having the windows connect to the soffit of the roof and since the roof pitch will be increased the elevation of the soffit will change. Replacement of the windows will benefit the facility in two ways, raise them up from the roof (less chance of flood damage and required for new roof) and being impact resistant.

The HVAC System needs to be replaced entirely due to the many issues and most of the system components past the end of their usefulness. The system will need many updates due to the code requirements that will be triggered upon because any alterations or renovations to the current system require code compliance. The central plant chillers and cooling tower fill media will be replaced to fix the chilled water system, as well as, the boilers for the hot water system will need to be fitted with new pumps with a variable frequency drive to allow for smaller heating increments. The central plant also needs to be equipped with both a refrigerant monitoring system and a refrigerant purge system. The controls of the system need to be replaced from its current set up due to the existing set up no longer being able to function properly. New controls to the system will allow for the system to operate more

efficiently, as well as, contribute to the well being of the occupants of the building. The air handling units are currently exposed to the elements and are needing to be replace due to the in adequate protection and security. They are also beyond repair and need to be brought up to code. The packaged terminal units located inside of the building have a scarcity of replacement part and are recommended to be replaced to extend the life time of the system component. The fan coil units are in poor condition and are to be replaced. It is also recommended to remove the roof top units and expand the chilled water system due to the insufficient capacity and possible degradation of the existing air handling units.

The best solution for the retention of the records of the hospital is deemed to be a new onsite building for the purpose of record storage. The building would be a climate-controlled storage facility to house the records and allow the hospital to have easier access during an emergency. The building would be windstorm rated, built above the flood plain, and be in compliance with ADA regulations in order to be able to keep the records safe and be accessible by any of the hospital staff.

Calhoun County Memorial Medical Facility Improvement Census Map



TxCDBG RACE AND ETHNICITY / GENDER CALCULATOR

INSTRUCTIONS AND DATA SOURCE

Data Source: Most Recent ACS 5-year Est. - Table DP05

City Applicants: Enter city-wide data as reflected on Table DP05

County Applicants: Enter census tract data as reflected on Table DP05

APPLICANT:		Calhoun County	
Sex and Age		ENTER DP05 DATA HERE	
Male:		11062	
Female:		10745	
One Race			
White:		18896	
Black or African American:		561	
American Indian and Alaska Native:		19	
Asian:		1032	
Native Hawaiian and Other Pacific Islander:		17	
Some Other Race:		339	
Two or more races:		943	
-White and Black or African American:		102	
-White and American Indian and Alaska Native:		739	
-White and Asian:		28	
-Black or African American and American Indian and Alaska Native:		0	
Hispanic or Latino and Race			
Hispanic or Latino (of any race):		10564	
Not Hispanic or Latino:		11243	
-White alone:		9314	
-Black or African American alone:		528	
-American Indian and Alaska Native alone:		3	
-Asian alone:		998	
-Native Hawaiian and Other Pacific Islander alone:		17	
-Some other race alone:		0	
-Two or more races:		383	
Enter Number of Project Beneficiaries:		21405	
Gender of Project Beneficiaries			
Male		10858	
Female		10547	
Race and Ethnicity of Project Beneficiaries		Hispanic	Non-Hispanic
White		9405	9143
Black/African American		32	518
American Indian/Alaska Native		16	3
Asian		33	980
Native Hawaiian/Other Pacific Islander		0	17
Some Other Race		333	0
White and Black/African American		59	41
White and American Indian/Alaska Native		431	294
White and Asian		17	11
Black/African American and American Indian/Alaska Native		0	0
Other multi racial		43	29
Total:		21405	