

Going With The Flow

Choosing a different model for
flood mitigation

Dr. Dwaine Augustine | Hamshire-Fannett ISD
PBK | Sofia Dusek

May 7, 2024



Introductions



Dr. Dwaine Augustine
Superintendent, HFISD



Sofia Dusek
Principal, PBK

Background:

Hamshire-Fannett ISD

256
square miles

1,953
students

4
schools

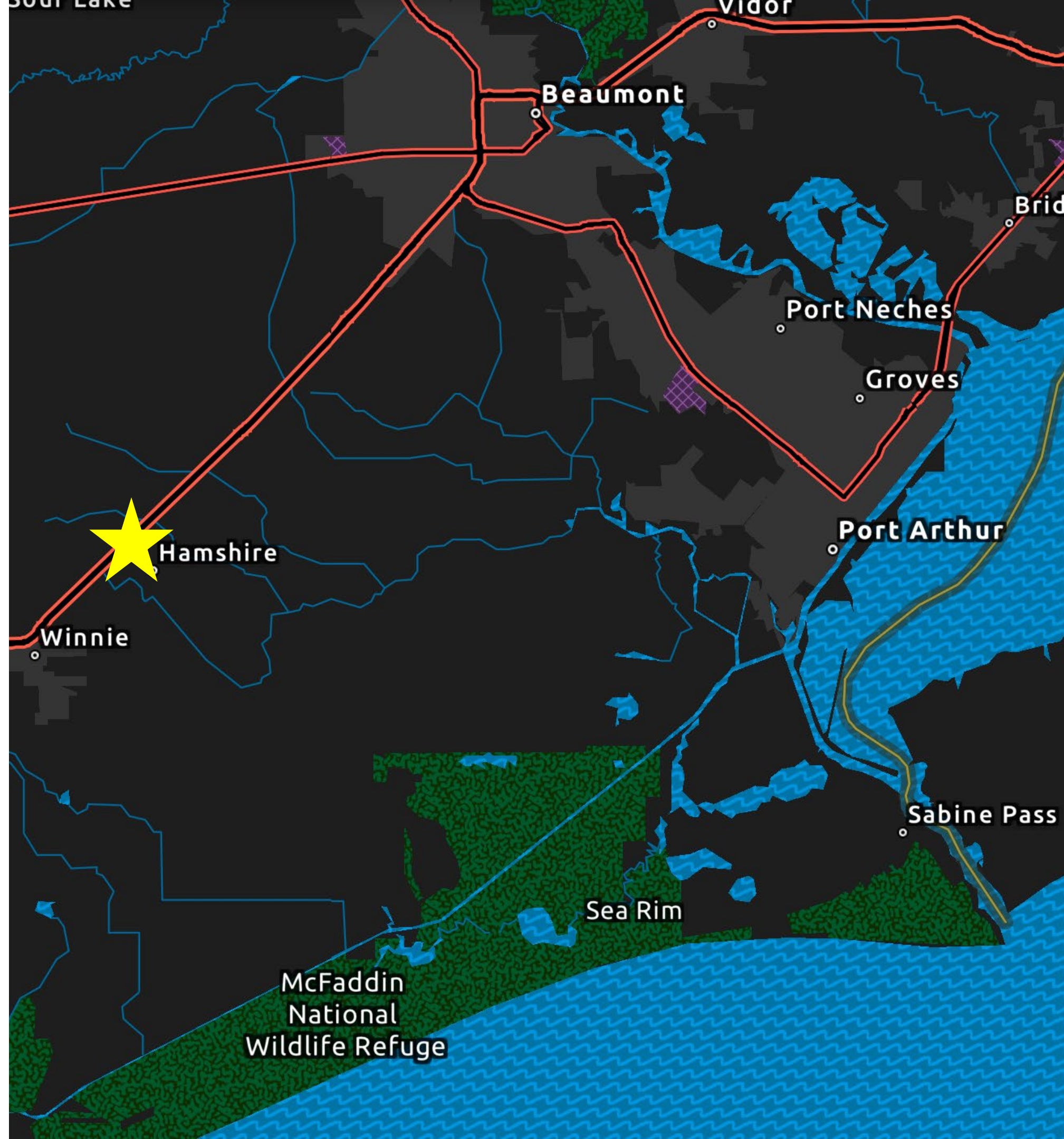
Hamshire-Fannett ISD sits in an unincorporated region of Jefferson County, which makes up the southeasternmost corner of Texas. It has always been a farming community comprised of mostly rice fields.

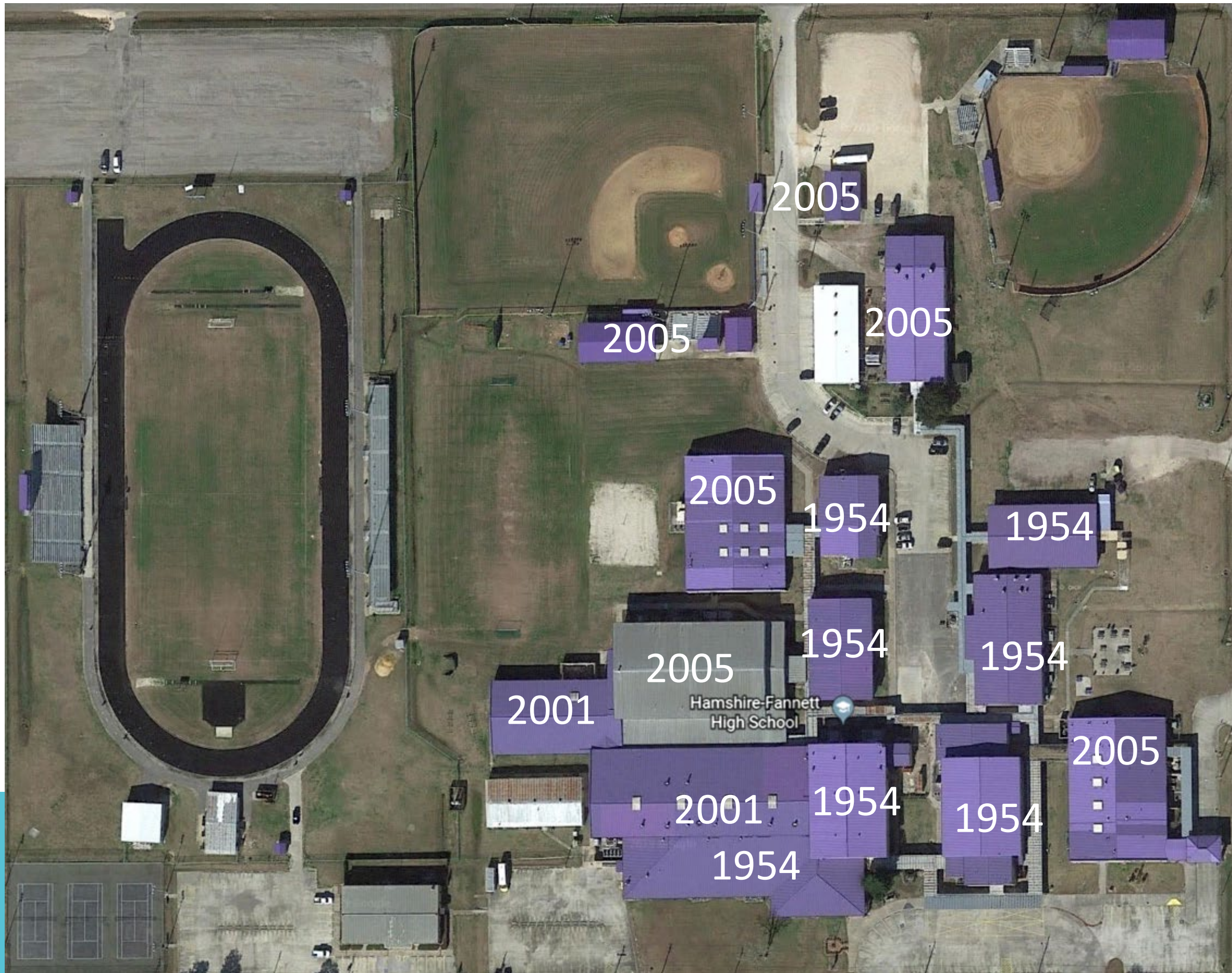
The region, and the district's single high school experienced significant flooding during Hurricane Harvey in 2017, then again in 2019 during Tropical Storm Imelda. The High School is the oldest of all facilities in the district and has the most needs.



Understanding the Hydrology of the Region

- Farming community; HFISD High School was built on a rice field
- Significant flooding in 2017 (Harvey) and 2019 (Imelda)
- Part of the Beaumont Watershed
- La Belle & Taylors Bayou Run through the area



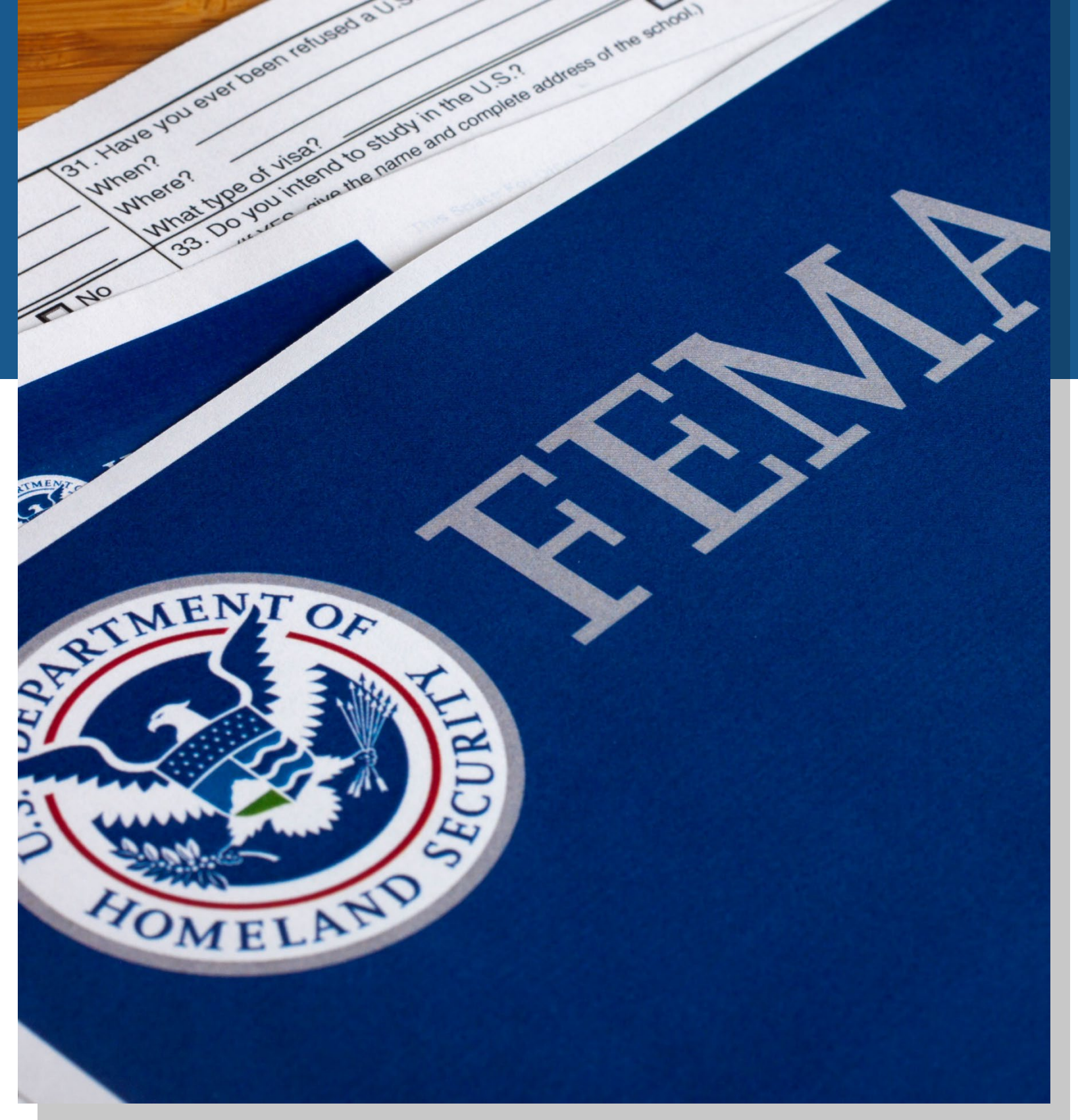


HF High School in 2019

- Last Bond program was 2005
- Ag, Cafeteria & English Buildings flooded in Imelda & Harvey

FEMA

- Individual Declaration (IA) / Public Declaration (PA)
- Thresholds
 - \$900,000 > / County
 - \$38,000,000 > / State
- Exclusions
 - Remediation
 - Portables
 - Other, i.e. A/E costs, contractor upcharges



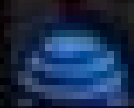


ON THE PHONE
ZENA STEPHENS
SHERIFF
JEFFERSON COUNTY, TEXAS



BREAKING NEWS

OFFICIAL



12:00p

Wolf


1







SCHOOL PRINCIPALS



**CHECKING ON THE BUILDING
FOR SCHOOL TOMORROW!**



Advisory 10
25 mph
Wind
Pressure 10
Moving NW
Next Advisory 4

& DANGEROUS FLOODING ONGOING
ported across Southeast Texas today



p ☁ 25% 10p ☁ 20% 11p ☁ 20% 12a ☁ 25%

SAMSUNG





2020 Bond + Master Plan Efforts

Facility Assessment
by PBK

Spring
2019

Tropical Storm
Imelda
Masterplan Process
Paused

September
2019

August
2019

Masterplan Process
Begins
Committee Meeting
1 & 2

Masterplan Resumes
Committee Meeting
No. 3 & 4

Winter
2019/2020

Masterplan Resumes
Committee Meeting
No. 5,6 & 7

Spring
2020

March
2020

COVID

June
2020

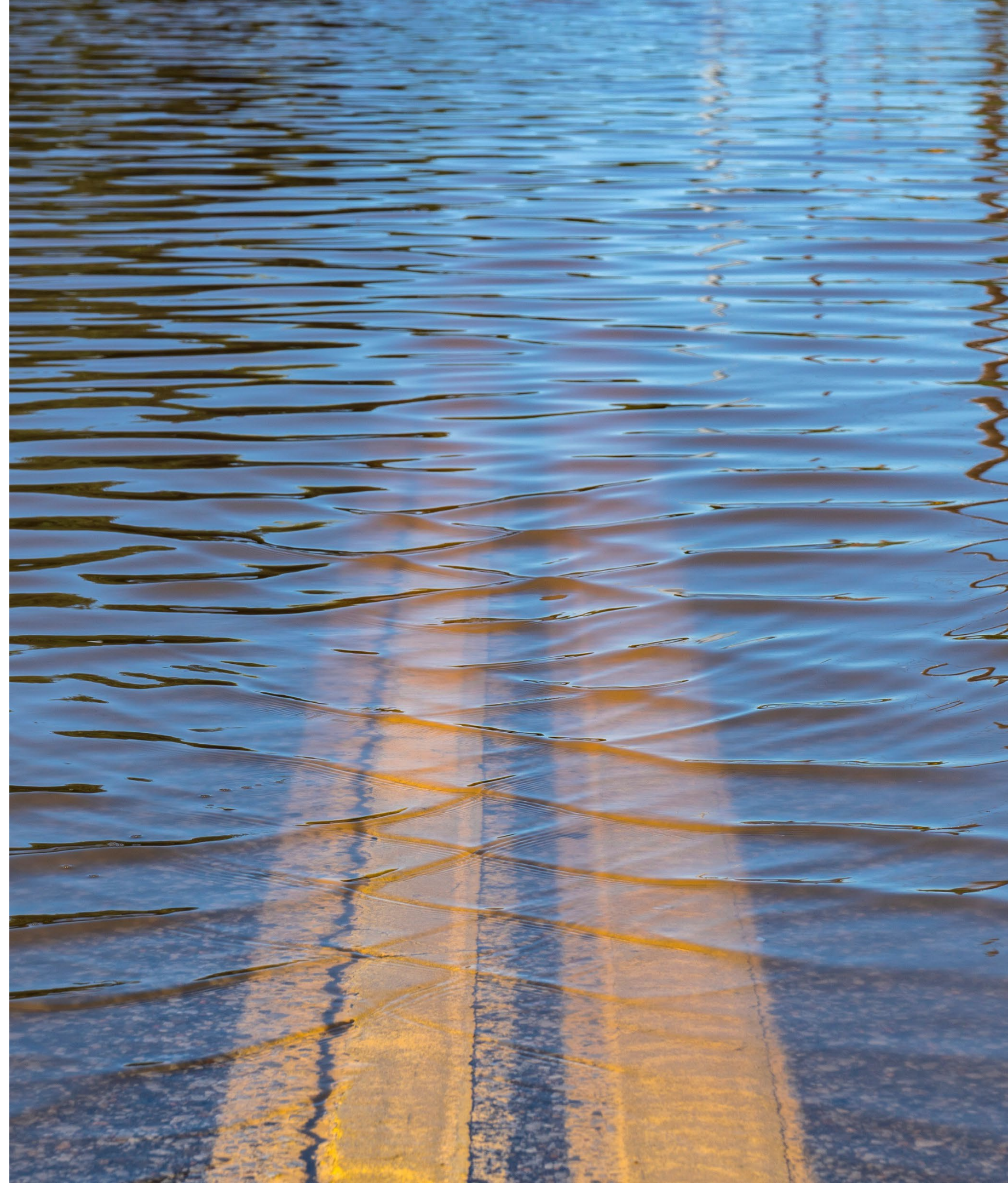
Board of Trustees
Presentation of
Proposed
Masterplan





Impact of Imelda & COVID on Bond Planning

- Multiple Committee Meeting Interruptions
- Master planning efforts were paused twice
- Remainder of Spring Committee Meetings were forced to be completed virtually
- Virtual Town Halls were held

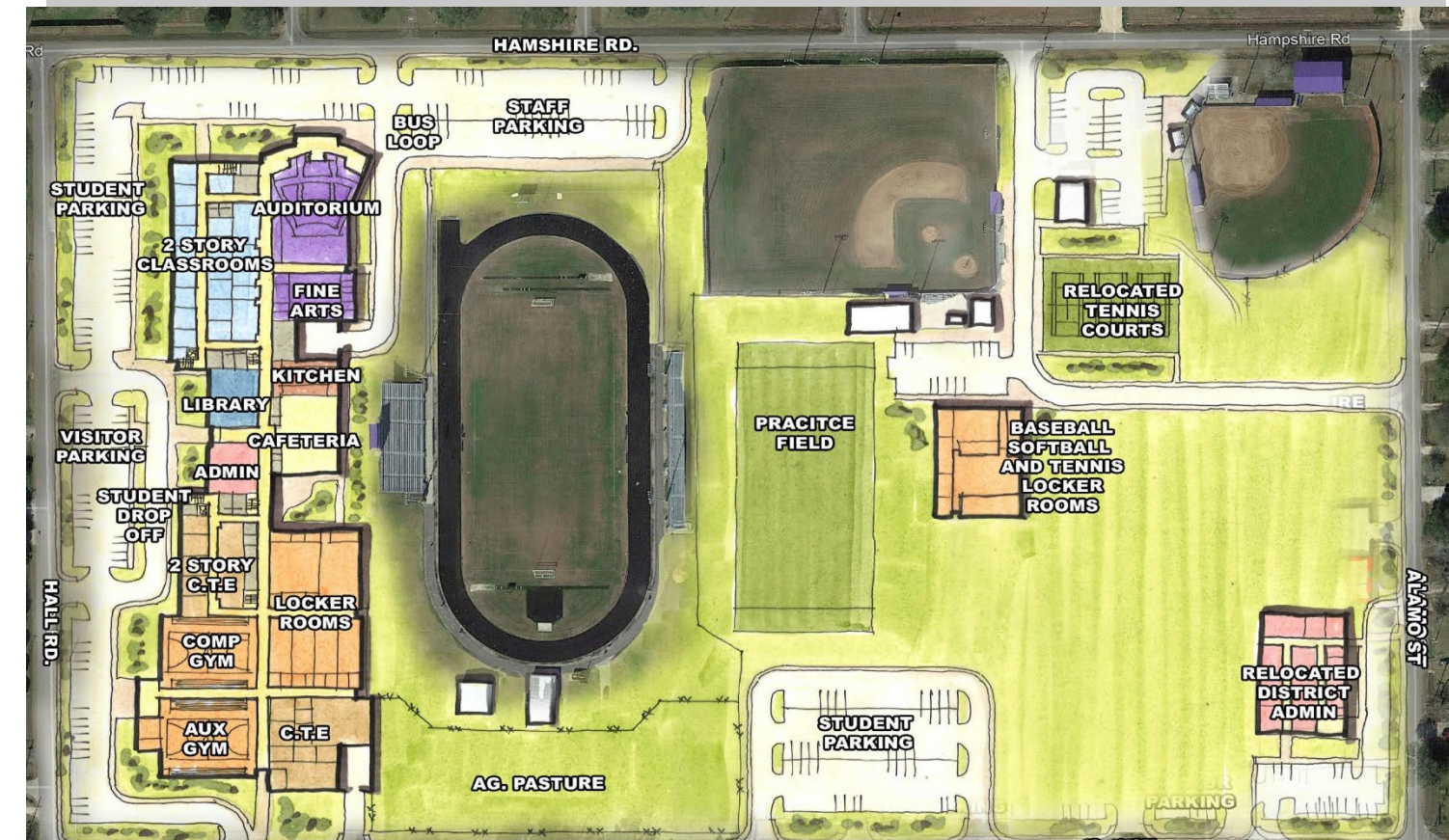


Impact of District Finances on Bond Planning

● District Bonding Capacity without raising taxes - \$38 MIL

● 3 Options presented to the Board for review in June of 2020:

- Option 1 – Replace Hamshire-Fannett High School in its entirety.
 - Construction Cost \$51,301,670/ \$290 sf
- Option 2 – Replace Hamshire-Fannett High School in Two Phases over two separate Bond Cycles.
 - Phase 1 - \$31,632,750 Construction Cost / \$290 sf
 - Phase 2 - \$41,154,170 Project Cost/ \$290 sf
- Option 3 – Renovate Existing Hamshire-Fannett High School
 - Project Cost \$57,015, 659

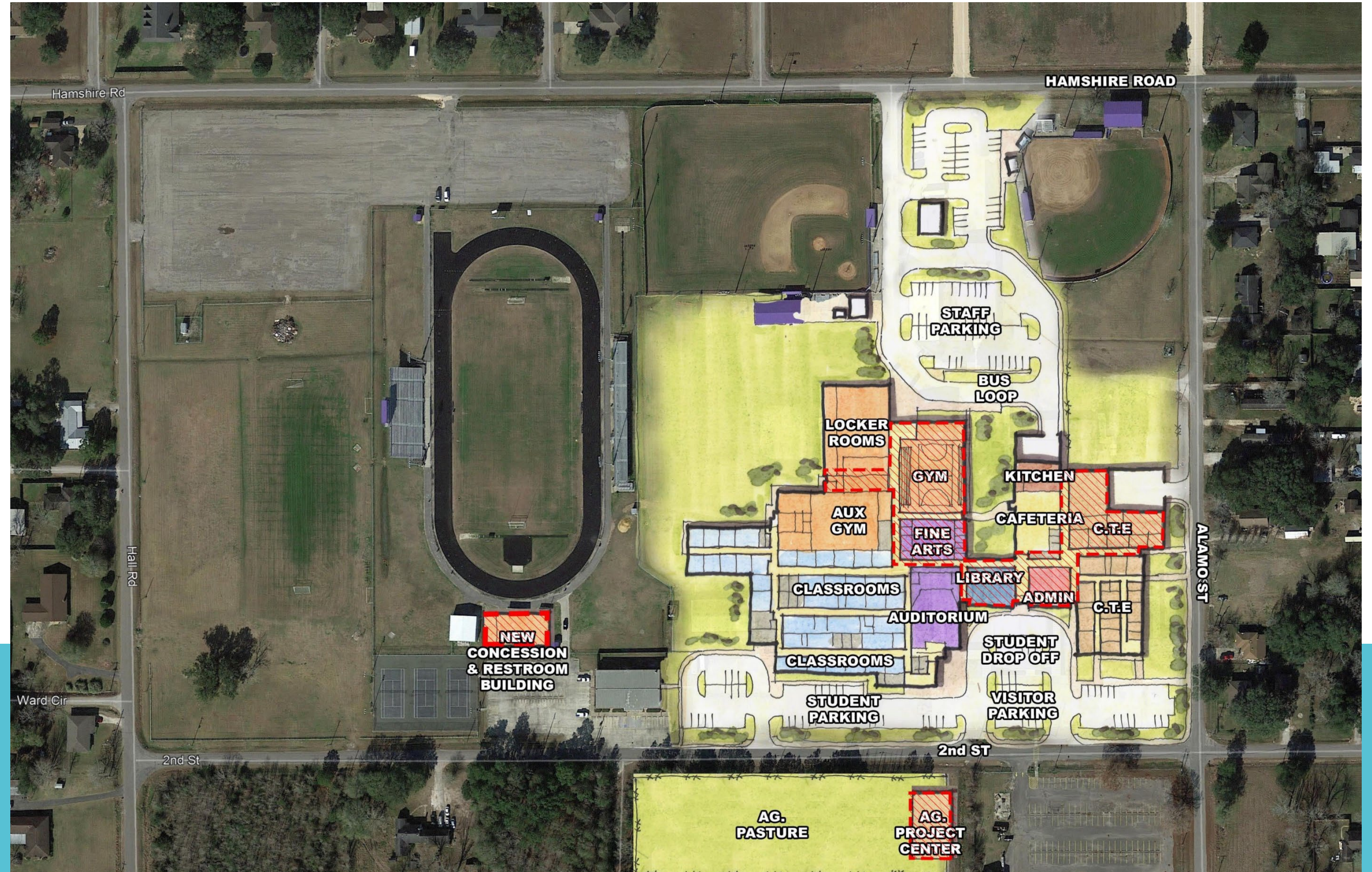


Masterplan Results

Phase 1
November 2020
Bond Program

Partial
Replacement

Hamshire
Fannett
High School

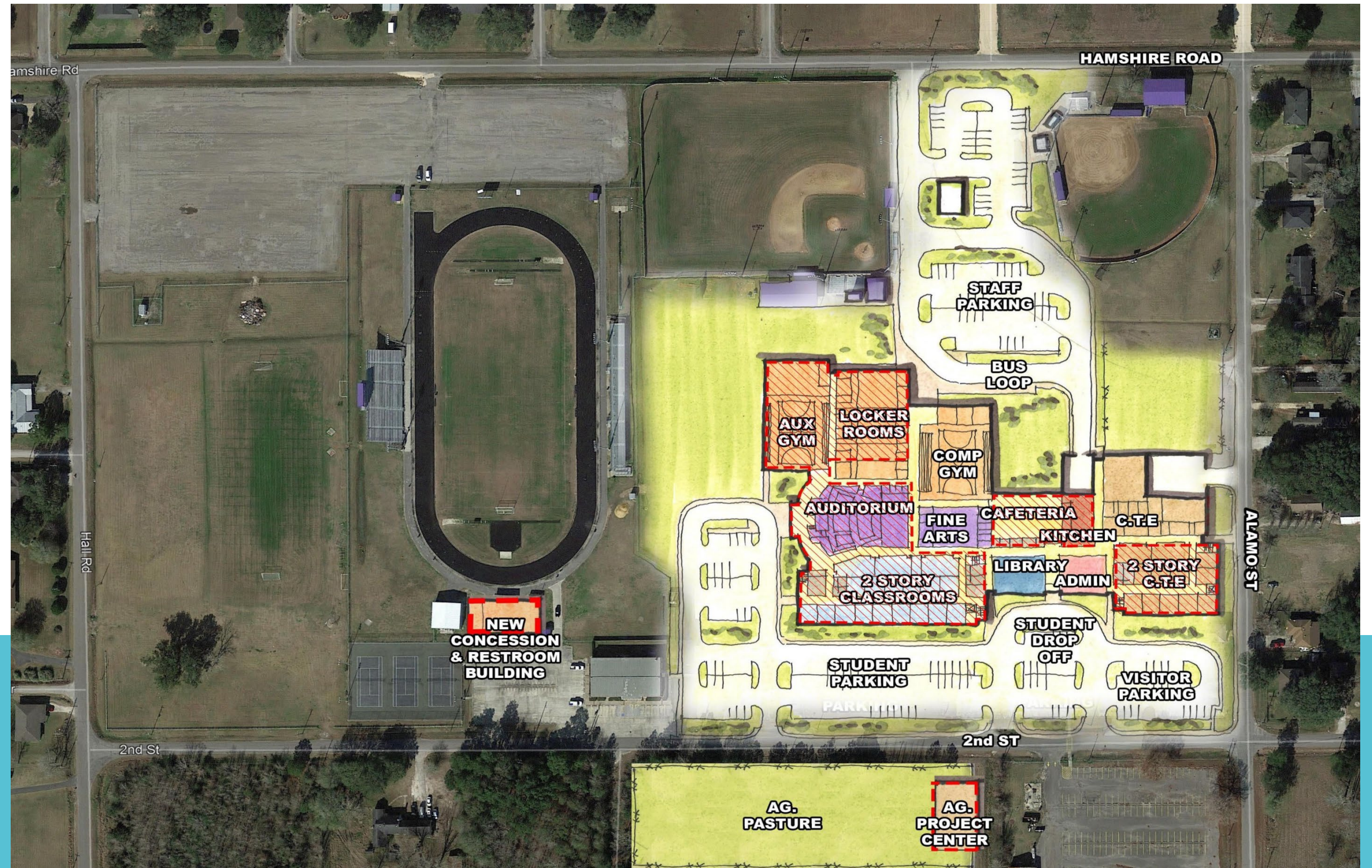


Masterplan Results

Phase 2

High School
Remainder

Hamshire
Fannett
High School





2020 Bond

\$38 Million Bond Referendum

November
2020

Construction Begins
on Total Contract
Amount:
\$32,690,833/\$415sf

March
2022

December
2020

Design Begins

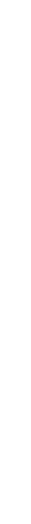
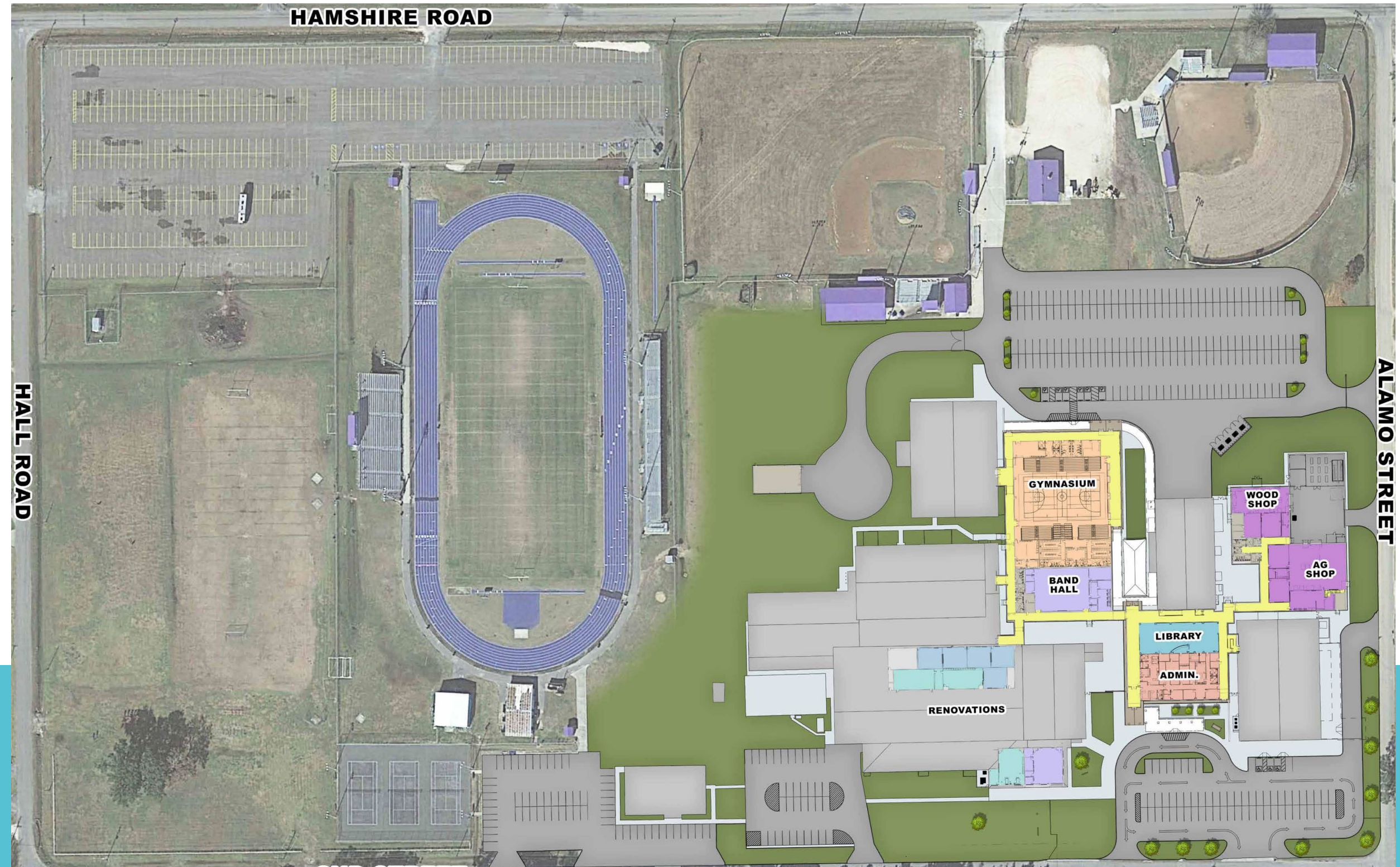


Final Project Design

Phase 1

High School
Part 1

Hamshire
Fannett
High School





Design Considerations

- Desire to be resilient by not having to replace many materials
- Limited in ability to raise the Finished Floor Elevation due to limited funding
- Easily cleaned flooring, walls, & furniture

FEMA Requirements For Materials BFE



Flood Damage-Resistant Materials Requirements

for Buildings Located in Special Flood Hazard Areas in
accordance with the National Flood Insurance Program

Technical Bulletin 2 / August 2008



Table 1. Class Descriptions of Materials

NFIP	Class	Class Description
ACCEPTABLE	5	Highly resistant to floodwater ¹ damage, including damage caused by moving water. ² These materials can survive wetting and drying and may be successfully cleaned after a flood to render them free of most harmful pollutants. ³ Materials in this class are permitted for partially enclosed or outside uses with essentially unmitigated flood exposure.
	4	Resistant to floodwater ¹ damage from wetting and drying, but less durable when exposed to moving water. ² These materials can survive wetting and drying and may be successfully cleaned after a flood to render them free of most harmful pollutants. ³ Materials in this class may be exposed to and/or submerged in floodwaters in interior spaces and do not require special waterproofing protection.
UNACCEPTABLE	3	Resistant to clean water ⁴ damage, but not floodwater damage. Materials in this class may be submerged in clean water during periods of flooding. These materials can survive wetting and drying, but may not be able to be successfully cleaned after floods to render them free of most ³ harmful pollutants.
	2	Not resistant to clean water ⁴ damage. Materials in this class are used in predominantly dry spaces that may be subject to occasional water vapor and/or slight seepage. These materials cannot survive the wetting and drying associated with floods.
	1	Not resistant to clean water ⁴ damage or moisture damage. Materials in this class are used in spaces with conditions of complete dryness. These materials cannot survive the wetting and drying associated with floods.

Acceptable Category 5 & 4 Materials

- Brick
- Concrete
- Concrete Block
- Water Resistant Fiber Reinforced Gypsum Exterior Sheathing
- Steel
- Metal Base Cabinets
- Ceramic & Porcelain Tile with mortar set
- Epoxy Paint
- Hollow Metal Frames & Doors



Flood Damage-Resistant Materials Requirements

for Buildings Located in Special Flood Hazard Areas in
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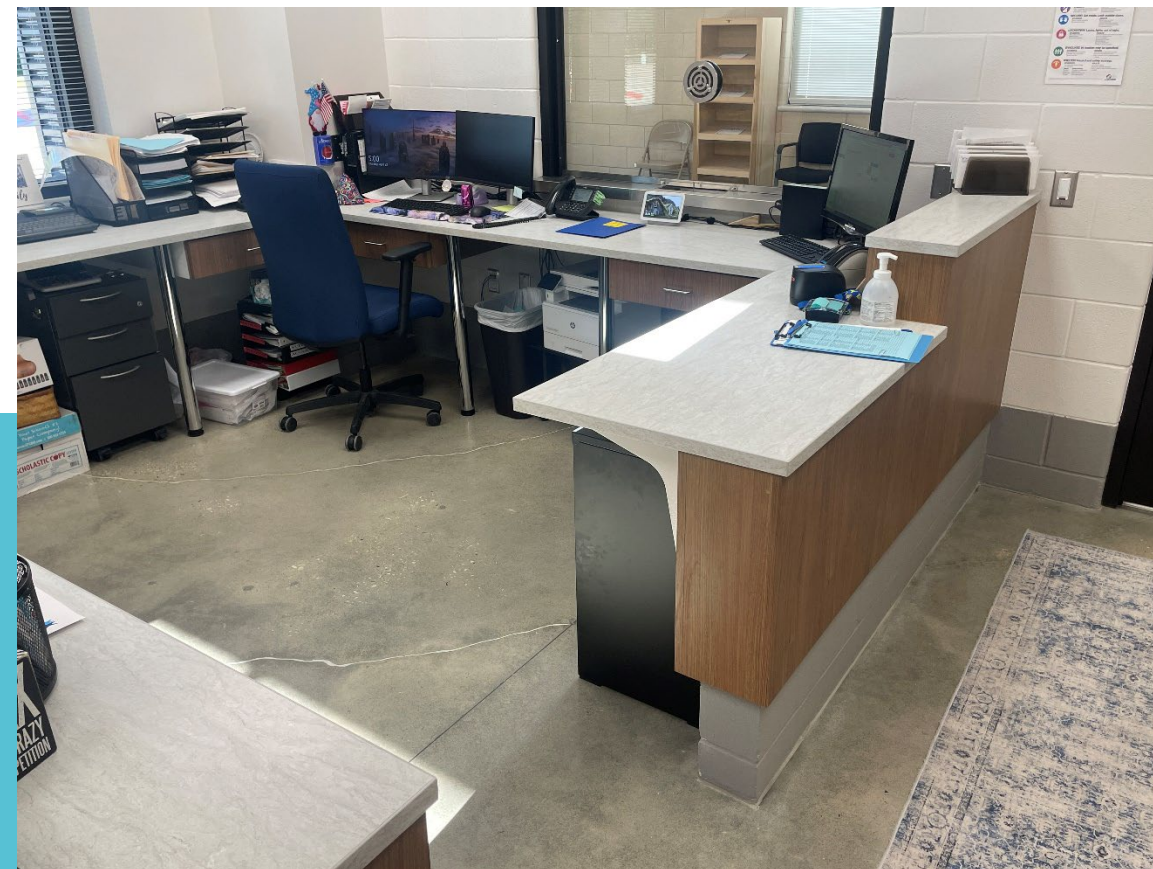
Technical Bulletin 2 / August 2008



https://www.fema.gov/sites/default/files/2020-07/fema_tb_2_flood_damage-resistant_materials_requirements.pdf

Main Corridors & Administrative Offices

- CMU Block walls in corridors
- Monolithic floor surfaces - Polished Concrete
- Casework with stainless steel legs or CMU base
- Tile Wainscot on Stud walls with CMU to 18"





High School Library

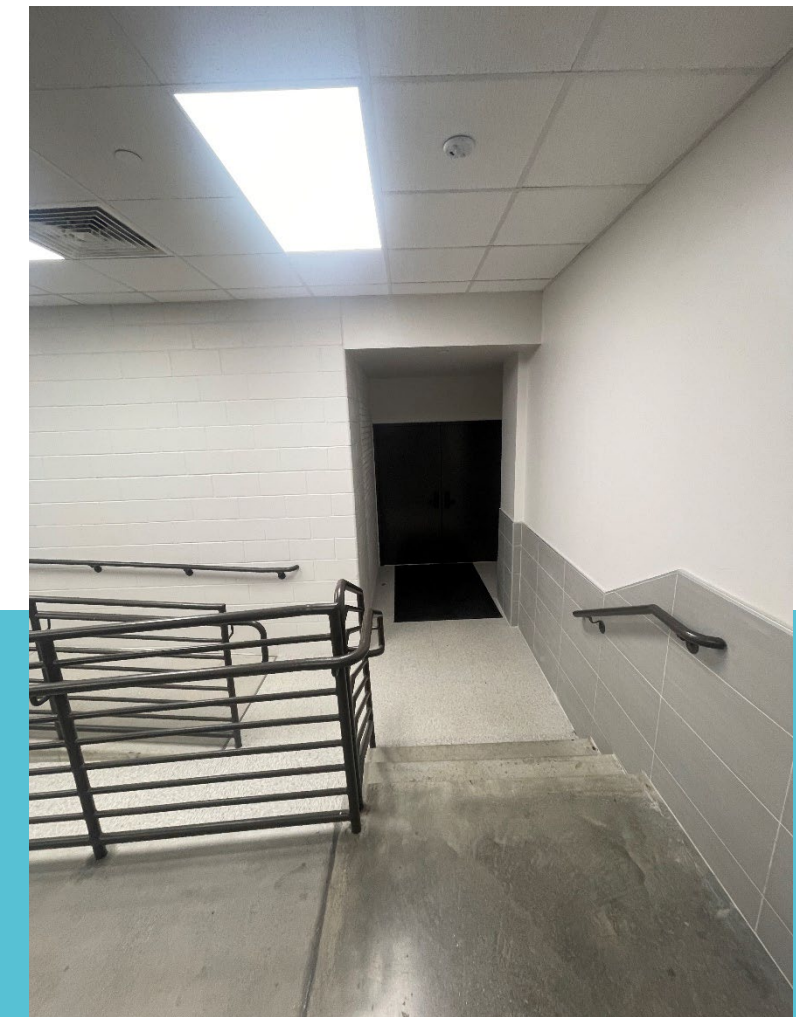
- CMU Block to 18”
- Monolithic floor surfaces – Polished Concrete
- Casework with stainless steel legs
- Furniture is all metal legs and easily wipeable





Classrooms & Corridors

- CMU Block to 18" or full height
- Monolithic floor surfaces – Polished Concrete
- Casework with stainless steel legs
- Furniture is all metal legs and easily wipeable
- Building Elevation Change





Rooftop Units & Equipment

Questions?

Thank You