

The logo consists of a solid red square with the word "Huckabee" written in white, bold, sans-serif font inside it.

Huckabee

FACILITY ASSESSMENT REPORT (HIGH SCHOOLS)

KILLEEN INDEPENDENT SCHOOL DISTRICT

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PREAMBLE

As directed by Killeen ISD, Huckabee has prepared the following Facility Assessment Report of the conditions of the four High Schools and Buckley Stadium within the district. These facilities comprise approximately 1.35 million square feet of interior space on 260 acres. There will be a second report that documents the assessment of all Elementary Schools (opened prior to 2009), Middle Schools (opened prior to 2009), and KISD administration defined support facilities (KLSS, JPLC, Administration, and the KLSS Athletic Field). The report outlines the current status of the facilities, including observed building code and handicap accessibility non-compliance; and general building conditions for Mechanical, Electrical & Plumbing, Fire Protection, site Civil, Structural, Kitchen (food service), Roof and Building Envelope, Security surveys that review the facility's infrastructure, and equitability between facilities.

This report is intended to outline the general condition of the facility by visual observations and is not intended to be an exhaustive, detailed study of all existing conditions, potential hazards and/or important considerations for all possible future construction projects. If the Board of Trustees would like to assess areas for a specific construction scope, this will require a more focused assessment.

Existing buildings in the City's jurisdiction are not required to meet each new building code as it is adopted. However, if the building undergoes a major renovation or addition, the City can then require that the entire building, not just the addition or renovation, be brought up to current codes. In the report, building code violations are identified in the event the facility is renovated.

Where ADA / TAS (handicap accessibility) non-compliance items were discovered and noted, the deficiency items will need to be repaired in order to bring the facility into compliance with the American Disabilities Act / Texas Accessibility Standards. Unlike the building code, ADA/TAS is federal and state law that has no grandfather clause for non-compliant items. The district previously brought many deficient items discovered during a TEA PAR inspection up to compliance. The items noted in the report are those items observed that were not noted and corrected by the PAR inspection.

Contained in the body of the report are color-coded floor plans of the facility that show the areas of identified deficiencies in terms of building code, ADA (handicap accessibility), Texas Education Agency (TEA) facility requirements and other needs. Also in the report are photographs and floor plans of the facility noting different areas of concern. No guarantees are implied by these Professional Opinions which are limited by the conditions observed at area selected for viewing by each Professional on the Assessment Team.

There are often many ways to address any one concern; some ways can cost more to address the concern and have a low risk or low maintenance cost, while other ways can cost less to address the concern but have a higher risk or higher maintenance cost, and in some cases action may be deferred. Huckabee Staff have met often with various people that represent Killeen ISD. Opinions of Probable Cost (cost estimates) to address the items noted in this report are provided based on Huckabee's understanding of how the District would like to address each item.

It is the intent of this report to assist the Killeen ISD Board of Trustees in making informed decisions regarding future needs. This assessment should be considered a living document, to be reviewed and updated at regular intervals as the District grows and as educational needs change.

SCHOOLS AND FACILITIES



Elementary Schools ●

- 1. Bellaire**
108 W. Jasper Drive
Killeen 76542
336-1410
- 2. Brookhaven**
3221 Hilliard Avenue
Killeen 76543
336-1440
- 3. Cedar Valley**
4801 Charitz Drive
Killeen 76542
336-1480
- 4. Clarke**
51612 Comanche Avenue
Fort Hood 76544
336-1510
- 5. Clear Creek**
4800 Washington Boulevard
Fort Hood 76544
336-1550
- 6. Clifton Park**
2200 Trimmer Road
Killeen 76541
336-1580
- 7. Duncan**
52400 Mustange Road
Fort Hood 76544
336-1620
- 8. East Ward**
1608 E. Rancier Avenue
Killeen 76541
336-1760
- 9. Fowler**
1020 Trimmer Road
Killeen 76541
336-2050
- 10. Harker Heights**
726 S. Ann Boulevard
Harker Heights 76548
336-2050
- 11. Hay Branch**
6101 Westcliff Road
Killeen 76543
336-2080
- 12. Haynes**
3309 W. Canadian River Loop
Killeen 76549
336-6750
- 13. Iduma**
4400 Foster Lane
Killeen 76549
336-2590
- 14. Ira Cross, Jr.**
1910 Herndon Drive
Killeen 76543
336-2550
- 15. Maxdale**
2600 Westwood Drive
Killeen 76542
336-2460
- 16. Meadows**
423 27th Street
Fort Hood 76544
336-1870
- 17. Montague Village**
84001 Clements Drive
Fort Hood 76544
336-2230
- 18. Mountain View**
500 Mountain Lion Road
Harker Heights 76548
336-1900
- 19. Nolanville**
901 Old Nolanville Road
Nolanville 76559
336-2180
- 20. Ovela Culp Hobby**
53210 Lost Moccasin Street
Fort Hood 76544
336-6500
- 21. Peebles**
1800 N. W.S. Young Drive
Killeen 76543
336-2120
- 22. Pershing Park**
1500 W. Central Texas Expressway
Killeen 76549
336-1790
- 23. Reeces Creek**
400 W. Stan Schlueter Loop
Killeen 76542
336-2150
- 24. Richard E. Cavazos**
1200 N. 10th Street
Nolanville 76559
336-7000
- 25. Saegert**
5600 Schom Drive
Killeen 76542
336-6660
- 26. Skipcha**
515 Prospector Trail
Harker Heights 76548
336-6680
- 27. Sugar Loaf**
1517 Barbara Lane
Killeen 76549
336-1940
- 28. Timber Ridge**
5402 White Rock Drive
Killeen 76542
336-6330
- 29. Trimmer**
4400 Success Drive
Killeen 76542
336-2270
- 30. Venable Village**
60160 Venable Road
Fl Hood 76544
336-1980
- 31. West Ward**
709 W. Dean Avenue
Killeen 76541
336-1830

32. Willow Springs

- 2501 W. Stan Schlueter Loop
Killeen 76549
336-2020

Middle Schools ●

- 33. Audie Murphy**
53393 Sun Dance Drive
Fort Hood 76544
336-6530
- 34. Charles E. Patterson**
8383 W. Trimmer Road
Killeen 76542
336-7100
- 35. Eastern Hills**
300 Indian Trail
Harker Heights 76548
336-1100
- 36. Liberty Hill**
4500 Kit Carson Trail
Killeen 76542
336-1370
- 37. Live Oak Ridge**
2600 Robinett Road
Killeen 76549
336-2490
- 38. Manor**
1700 S. W.S. Young Drive
Killeen 76543
336-1310
- 39. Nolan**
505 E. Jasper Road
Killeen 76541
336-1150
- 40. Palo Alto**
2301 W. Elms Road
Killeen 76549
336-1200
- 41. Rancier**
3301 Hilliard Avenue
Killeen 76543
336-1250
- 42. Smith**
51000 Tank Destroyer Boulevard
Fort Hood 76544
336-1050
- 43. Union Grove**
101 E. Iowa Drive
Harker Heights 76548
336-6580

High Schools ▲

- 44. C. E. Ellison**
909 Elms Road
Killeen 76542
336-0600
- 45. Harker Heights**
1001 FM 2410
Harker Heights 76548
336-0800

46. Killeen

- 500 N. 38th Street
Killeen 76543
336-7208

47. Robert M. Shoemaker

- 3302 S. Clear Creek Road
Killeen 76549
336-0900

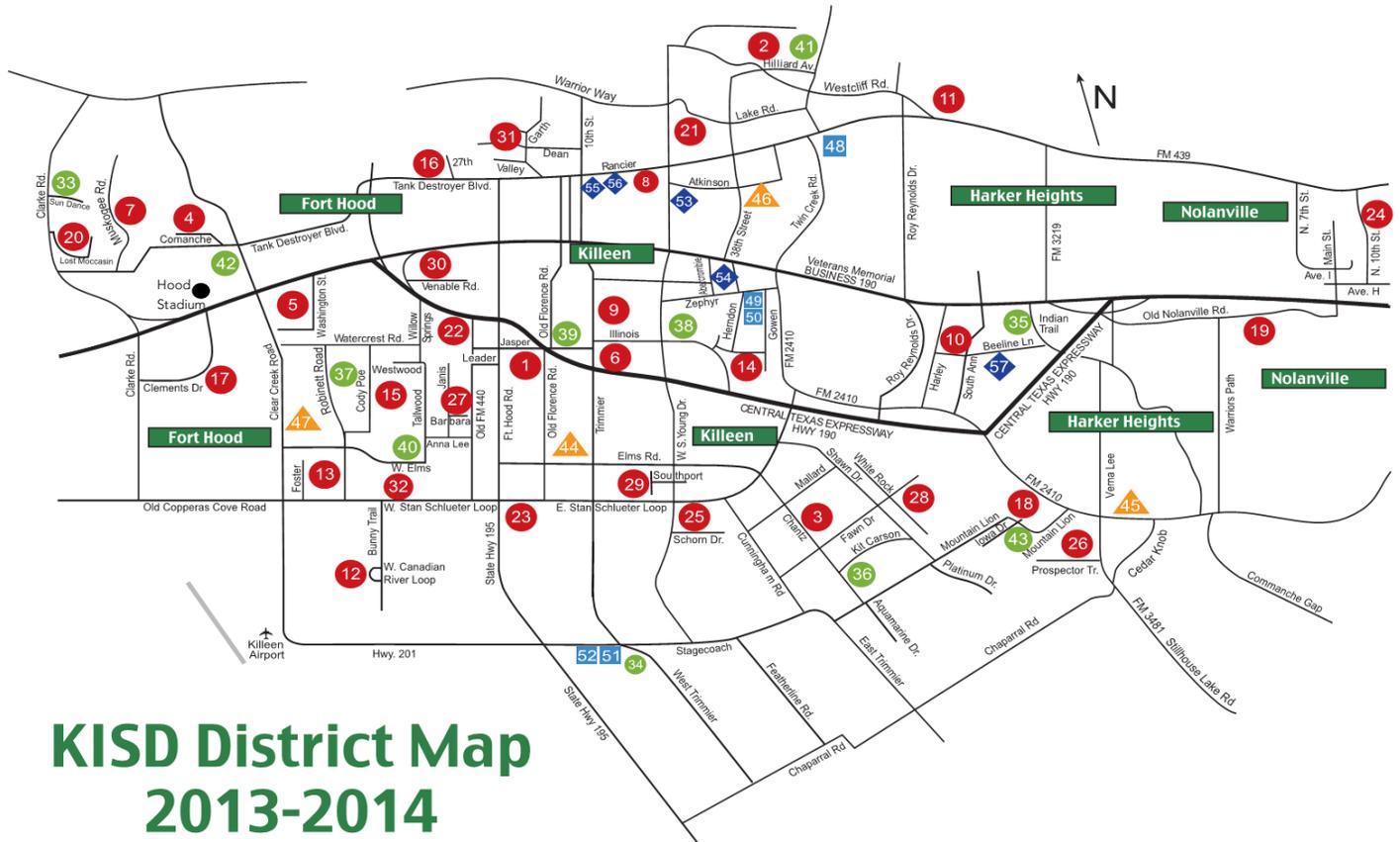
Special Campuses ■

- 48. Bell County Juvenile Detention Ctr/JJAEP**
4800 E. Rancier Avenue
Killeen 76543
690-7022
- 49. Gateway High**
4100 Zephyr Road
Killeen 76543
336-1700
- 50. Gateway Middle**
1307 Gowen Drive
Killeen 76543
336-1690
- 51. K15D Career Center**
1320 Stagcouch Road
Killeen 76542
336-3800
- 52. Pathways Academic Campus**
1322 Stagcouch Road
Killeen 76542
336-7250

Administration ◆

- 53. Administration Building**
200 N. W.S. Young Drive
Killeen 76543
336-0000
- 54. Jackson Professional Learning Center (JPLC)**
902 Rev. R.A. Abercrombie Drive
Killeen 76543
336-1741
- 55. Killeen Learning Support Services (Administrative Annex)**
902 N. 10th Street
Killeen 76541
336-0200
- 56. Student Services**
902 N. 10th Street
Killeen 76541
336-2922
- 57. Technology Services Ctr**
104 E. Beeline Lane
Harker Heights 76548
336-6894

DISTRICT MAP



KISD District Map 2013-2014

EXECUTIVE SUMMARY

BACKGROUND OF THIS ASSESSMENT

Herein, we are pleased to present the findings of our assessment of your facilities. We would like to express our sincerest appreciation to all those who met with us, assisted us, and at times tolerated us throughout this entire process. This input is invaluable to the success of this process.

In this executive summary we outline facts and figures about the work, facts about the Killeen ISD facilities, the general findings of the assessment, and overall opinions of probable costs (cost estimates). Findings about specific facilities can be found in the later portions of this document where each facility is discussed in great depth and detail. Also included in those portions are task lists of needs.

The facility assessment is a tool to assist Killeen ISD in several key ways. It documents existing building finishes, classroom sizes, and other facility information that will allow for comparison to future adopted district facility standards (none adopted as of the date of this assessment). It further serves as a tool for making decisions about the future of the district as it relates to facilities and how well those facilities support the district's mission. It allows for a determination of the level to which facilities are consistent and provide a reasonable level of equity across all district facilities for all learners. It provides a baseline of pricing / budgeting for the District to begin project and/or capital improvement planning (CIP).

A facility opinion of probable costs (cost estimate) for each building is included for planning purposes in prioritizing possible items to include as a budget for use in the proposed CIP. The costs are presented in the following categories of hierarchy per input from KISD Administration:

- Tier 1 – Life Safety / Code / Handicap Accessibility Deficient Items
- Tier 2 – Repair (2a) or Replacement (2b) Items
- Tier 3 – Cosmetic / Equitability / TEA Items

In a few cases, items may be included in more than one place as they may overlap with other survey items. For example, roof work may be noted in the roof report that may be duplicated under MEP as it relates to the installation of new rooftop mounted equipment.

All costs included are conceptual in nature and include escalation (a measure of anticipated inflation) to the end of 2015 (if work bids after 2015, then budget to be adjusted for inflation at 6%-8%/year). Costs shown are total project costs and include cost of work, escalation, contingencies, and soft costs. Furniture, Fixtures, and Equipment (FF&E) is not included in the proposed project opinion of probable costs / budget. A summary table shows the cumulative cost impacts. However, it is important to note that prioritization, phasing, discovery of additional detail, and development of the final scope of work for projects will almost certainly affect these costs. Therefore, costs need to be continually monitored for the duration of the project to manage the impact of these type activities on the cost presented herein.

This report should become the data that will provide for decision making and consensus building as to where the district is going and where KISD wants to be within a yet to be determined timeframe.

THE ASSESSMENT TEAM:

We have had a team of more than 30 individuals who have been:

- Gathering documents of the KISD facilities;
- Walking the approximately 1.35 million square foot of space in the High School facilities and Buckley Stadium;
- Walking the almost 260 acres of property with those facilities;

EXECUTIVE SUMMARY

- Reviewing and documenting with KISD staff any known needs of the district facilities;
- Downloading institutional knowledge important to the task at hand;
- Meeting with leadership to understand what the future of KISD is envisioned and how the facilities need to serve that future;

Total Number of Facilities Included in this assessment [High Schools (report 1) and ES + MS + Support (report 2)]:

Elementary Schools	30
Middle Schools	10
High Schools	4
Other Educational	2
Athletic Facilities	3
<u>Administrative/Support</u>	<u>1</u>
Total	50

Note that the following facilities were not included within this assessment scope by KISD direction to keep the focus mainly on direct education facilities older than 2009:

ES – Cavazos and Haynes (both opened after 2009) not assessed

MS – Patterson (opened after 2009) not assessed

Support – Gateway, New Career Academy, Pathways, KLSS Technology, Technology Center, Fleet Maintenance, Grounds Maintenance, Central Warehouse, Property Management, Athletic Warehouse, Fairway, Sallie Mae Building, and Old Nolanville Facility not assessed

BUILDING ANALYSIS

Killeen ISDs facilities include several older facilities with multiple additions and a lesser number of newer facilities. The age of the facilities is largely a reflection of the development of the community which is served by the school district. For example as would be expected the oldest facilities are generally located in the City of Killeen and the newer facilities are generally in expansion areas of Killeen and located in the City of Harker Heights, Nolanville, and Fort Hood. Due to the varying population impact to the KISD community has relative to troop activity on Fort Hood, the quantity of elementary schools in respect to the quantity of middle and high schools is disproportionate to a typical K-12 school district model. Simply stated, the number of younger military families with young children is greater than any other age family unit. The location of these facilities by community is as follows:

Elementary Schools

- 19 in the City of Killeen
- 7 on Fort Hood (5 within secure perimeter)
- 3 in the City of Harker Heights
- 1 in the City of Nolanville

Middle Schools

- 6 in the City of Killeen
- 2 on Fort Hood
- 2 in the City of Harker Heights
- 0 in the City of Nolanville

High Schools

- 3 in the City of Killeen
- 1 in the City of Harker Heights
- 0 in Fort Hood
- 0 in the City of Nolanville

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Athletic Facilities

- 2 in the City of Killeen
- 1 on Fort Hood

A simple calculation of the average age of KISD's building stock shows the following:

- Elementary Schools are 31 years
- Middle School are 23 years
- High Schools (including Buckley Stadium) are 33 years
- Other Ed Facilities are 33 years

It should be noted that the ages range as follows:

- Elementary Schools range in age from 62 years to new fall 2014
- Middle Schools range in age from 53 years to 5 years
- High Schools range in age from 50 years to 18 years.

PROTOTYPE FACILITIES

Killeen ISD's facilities consist of several prototype plans that have been used for multiple campuses. The prototypes used by the district have changed and varied over the years. The prototypes evolve for some of the following reasons:

1. Teaching methodologies have changed.
2. The community has grown quickly in some areas and slower in others.
3. Different administrations have led the district with a vision shift toward facilities and programs.
4. In many cases the prototype has been added onto in differing manners following their original construction.
5. A prototypical school may not be exactly the same campus to campus as there may be subtle changes to the basic form of the prototype. These changes may be due to site conditions or configurations, lessons learned each time the facility was built, or other undefined reasons.

For instance the Harker Heights and Shoemaker High Schools are prototype "sister" plans. However, each of these facilities were originally opened as 9th grade centers. Shoemaker was originally opened as the Ellison 9th Grade Center before becoming another High School for the district. Due to population growth, each facility has been adapted to serve as High Schools serving grades 9-12.

SITE SIZES

While there is no defined standard for site size in the State of Texas, however our experience tells us that schools sites should be in the following ranges:

- Elementary School Sites 10-12 usable acres
- Middle School Sites 24-30 usable acres
- High School Sites 65+ usable acres

The Council of Educational Facility Planners International (CEFPI) makes the following recommendations for school sites:

- Elementary Schools 10 acres, plus 1 acre for every 100 students

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- Junior High Middle Schools 20 acres, plus 1 acre for every 100 students
- Senior High Schools 30 acres, plus 1 acre for every 100 students

GENERAL FINDINGS

In general terms we have made the following observations:

1. General Items:
 - a. While all facilities have been maintained to the greatest extent possible with the monies and staff available and the age of many of the building's elements, in general terms the older buildings are showing their age and their systems are getting more difficult to maintain including subsurface utilities.
 - b. As would be expected newer facilities have fewer problem areas that were evident during this assessment.
2. Texas Accessibility Standards and Building Code:
 - a. Though most of the interior elements of the facilities comply, many of the items noted in the assessment identify railing and accessible route deficiencies. Site corrections around facilities are needed to properly comply with TAS / ADA.
 - b. Many of the classrooms have fire rated doors with wire glass. Future renovations will require replacement of this glass and in some cases the entire door assembly in order to be compliant with life safety code. The doors will need to have closers, proper smoke gaskets, fire rated assembly labels on each fire rated door, and replace wire glass with the current code allowed vision glazing. This cost consideration should be considered on any high school renovation. Doors with noted replacement / repair issues have been noted for replacement in this assessment. However, not all need to at this time.
3. Once new district wide facility technical standards are adopted by the district, more consistent equitable educational environments can be provided across the district. Mainly due to the varying age of the buildings, the interior educational environment varies between schools.
4. Site General:
 - a. The high school sites in general are sized sufficient for the functions they serve. Though the proximity of the exterior program elements could be better located in proximity to the programs they serve, the sites are within the recommend size range of 65 acres for a High School.
 - i. Killeen HS – 60 acres
 - ii. Ellison HS – 60 acres
 - iii. Harker Heights HS – 70 acres
 - iv. Shoemaker HS – 70 acres
 - b. As typical for most school district's facilities, it does not appear concrete pavement joints are being resealed for any district facilities on a regular basis which would help protect the pavement sub-grade thereby extending the life of the pavement. In addition, sidewalk joints, where abutting buildings, are not being resealed on a regular basis which would help protect the building foundation sub-grade from water infiltration.

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5. Civil:

- a. The majority of the deficiencies observed consisted of pavement and flatwork failures with a few instances of drainage issues at athletic fields. Below is a generalized summary of our findings.
 - i. Surface Drainage
 - a) Overall, surface drainage appeared to be adequate. Some of the issues mentioned by KISD staff were not readily apparent during our site visits which occurred on dry days. In general, fixes for the localized drainage issues that were observed at the athletic fields can be addressed by improving the grades and the drainage system immediately around the fields.
 - b) A more severe case of drainage and erosion problems was observed at Harker Heights High School. Considerable erosion occurring at the side slopes is exacerbating the drainage problems around the school due to silt accumulation. Regrading, stabilization, and revegetation of the slopes will be necessary, as well as verifying and improving the grades of the existing drainage channels and berms to make sure that they are performing as intended.
 - ii. Asphalt Pavement:
 - a) Due to age and a lack of an aggressive maintenance program, several areas of asphalt pavement need to be addressed. This was most evident at Ellison and Killeen High Schools. Where the asphalt layer has deteriorated beyond repair, the recommendation is for a full replacement of the pavement section. This includes reworking the subgrade, and re-installing base and asphalt. In areas where the pavement structure appeared to be in better condition, the recommendation is for localized repair of pot-holes and failures, and then seal coating. These recommendations will be tailored further after a geotechnical analysis of the existing conditions and recommendations for pavement thickness are developed by a geotechnical engineer.
 - iii. Concrete Pavement:
 - a) As expected, concrete pavement is in better condition overall. A few localized areas have been identified where the concrete pavement has deteriorated, including areas where trenching for utilities has been performed.
 - iv. Texas Accessibility Standards:
 - a) Through visual observation, it was noted that a few ramps and flatwork/sidewalks needed to be added or improved around the various sites. An overall accessibility analysis will have to be performed to ensure full compliance with the standards.
 - v. Water and Wastewater Utilities:
 - a) No water or wastewater utility issues were apparent during our site visits. KISD staff mentioned that water piping at Killeen High School has been an issue as they have had to repair pipe breaks at least 4-5 times each year. We understand that the material is transite piping which is no longer used for water. The report did not include an evaluation of the water piping system. Continued maintenance may be the preferred option at this time as a comprehensive replacement program would be cost prohibitive.

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6. Foundations:

- a. The Killeen High School foundation types vary. Many are slabs on grade, which sometimes move when the clay subgrade swells or shrinks due to moisture changes. Movement of slabs on grade can create problems such as unlevel floors which can in some instances cause conditions that do not comply with Texas Accessibility Standards, cracks in walls, door not operating properly, water leaks, etc... Many of these problems can often be reduced by maintenance projects projects, such as re-levelling floors, repairing cracks in walls, resetting doors, fixing leaks, etc... We generally did not observe any slabs on grade with such an extent of problems that we would recommend replacing the existing slab on grade with a system that requires less maintenance, such as a structurally suspended foundation type. Slab movement is often related to moisture changes caused by exterior grades not providing positive drainage away from buildings which, for example, can occur as soil erodes under roof drain downspouts; we recommend following the Civil Engineering recommendations for regrading to address all water drainage and infiltration problems noted during the assessment.
- b. Several campuses appear to not have a functioning moisture barrier under the slab which has led to challenges to get floor finishes placed in recent years following a reduction in allowable VOCs to stick to the slabs. An example of this is Ellison HS where the originally constructed portion of the building does not have an under-slab vapor barrier and the VCT has since been removed due to moisture and delamination issues. The stained sealed concrete does look and perform well for the district in this location.

7. Structural Framing:

- a. There are some areas with flat roofs where the design intent was to have no slope at all. This older type of construction has caused numerous problems in the industry and in some instances has caused catastrophic roof collapses because water causes deflection which then causes more water to pond which causes more deflection and becomes unstable at some point. This "ponding instability" is a phenomenon we are concerned about at the Killeen High School over the Auditorium Lobby, specifically. Recommendations are provided in this report.
- b. There is a wood framed catwalk over the Auditorium that has many cracked and rotten boards and does not appear to have been engineered. We do not recommend allowing access to this catwalk unless it is reconstructed with a new engineered catwalk system.
- c. Unreinforced masonry can often exhibit non-structural cracks as well as cracks that are structurally significant. In general, there are many cracks that are more cosmetic but there are some we are concerned about structurally, such as at the Gymnasiums for Harker Heights and Shoemaker High Schools. Unreinforced Masonry often has an inadequate connection at the top of exterior walls that are parallel to existing joists, which in some extreme cases can allow the wall to be pulled down suddenly during an extreme wind event. Furthermore, it is common for exterior screen walls in some of Killeen's older structures to have masonry screenwalls that may be completely unreinforced, which was more common during those construction eras; it is often common that unreinforced masonry screenwalls fall suddenly during extreme wind events or when hit by vehicles. There are often many mitigating circumstances, such as shielding effects of nearby structures and bracing effects of non-structural items like flashing and electrical conduit. Recommendations are made this report.
- d. There are many steel framing systems that do not have the small bracing members underneath that are industry standard today to prevent a premature lateral torsional buckling of the roof structure during wind uplift. Pre-Engineering Metal Buildings and steel roof bar joists both were observed to not have this bracing and we recommend it be added.

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- e. There is an ongoing problem at both Harker Heights and Shoemaker High Schools with continual cracking of the masonry veneer around the steel canopy columns, which we believe is associated with the design having a flexible steel system that expands and contracts with temperature connected to masonry veneer which is relatively brittle. We identify one condition where the masonry veneer has been removed completely and it exposed what appears to be a non-engineered extension of the tube columns which also needs to be addressed. In this report, we recommend removing the masonry wraps and replacing the existing field-modified columns with new columns that are the appropriate length and size.
8. Sealants and Asbestos:
- a. Asbestos containing materials are known to exist in some facilities as identified in District reports most updated in September 2013 by Burcham Environmental Services and APASI Lab. The data herein was derived from the district provided reports.
 - i. Ellison HS and Killeen HS both have asbestos containing elements in flooring adhesives that are currently encapsulated by the floor covering over them. When renovations are planned for these areas, the asbestos material will have to be properly abated.
 - ii. Harker Heights and Shoemaker both tested negative for asbestos containing elements. This should be the case since both facilities were constructed in the mid-1990's. KISD has exercised good stewardship by having hazardous material assessments completed regularly on all ISD facilities.
 - b. Many campuses with existing original single pane steel framed windows do not perform well from an energy stand point. Killeen HS existing original windows are known to contain asbestos based glazing putty which requires that broken glass replacement to be an abatement project, and several have missing hardware or are severely rusted making them inoperable and incapable of being secured. These windows have been noted for Tier 3 replacement.
 - c. Most of the facilities have some level of failed control and expansion sealant joints. These have been noted as Tier 2b replacement.
9. Door Hardware:
- a. Many of the classrooms do not have a lock-down (intruder) capability at the door. This function is encouraged to provide each teacher the ability to lock down their room from the inside without opening the door.
 - b. Some door hardware is not TAS/ADA compliant.
 - c. Classrooms with code required fire rated doors (which is most) have hold open stops installed and no closers. This application of hardware may function well for the teachers but, it does not comply with the life safety code today nor when the facility was constructed. These are noted as Tier 1 replacement.
10. Finishes and Casework:
- a. Casework in some facilities requires replacement. The items assessed are either noncompliant with accessibility codes, are old and damaged, are fabricated from substandard material (built by other than skilled carpentry outside of a bid project or ISD maintenance project) , or are subjected to consistent moisture, causing warping, bowing, and separation of major components creating structural failure.

EXECUTIVE SUMMARY

- b. Most of the older facilities have well-worn and failing interior finishes that should be replaced since they are beyond their serviceable life or are dated and should be upgraded to freshen up the campuses appearance.
- c. Killeen HS contains many rooms with a trowel applied plaster finish which has cracked or spawled in many classrooms. These areas need a new furred metal stud wall with single sided gypsum board (benefits concealing surface mounted electrical devices as well) as a functional and cost effective remedy. The rooms are sized exceeding the minimum standard for TEA and could accommodate this renovation.

11. Mechanical

- a. The HVAC systems at all KISD schools, with the exception of Ellison HS, are comprised entirely of DX rooftop units and split systems. The age and condition of this equipment varies greatly throughout the district as new buildings and additions have been built and mechanical renovations have occurred. Many units throughout the district, however, are either at or are approaching the end of a recommended 15 year useful life.
- b. Ellison HS is the only KISD campus that utilizes a chilled water / hot water system, which serves a majority of the original building.
 - i. The facility's four-pipe air handling units (AHUs) are original to the building's 1976 construction and were custom built into the spaces in which they are housed. Each of these AHUs has reached the end of a recommended 30 year useful life. Given the custom nature of these units, a one for one replacement might not be a feasible option, and a redesign may be needed.

12. Electrical

- a. Many district facilities are in need of additional dedicated computer panels as well as TVSS and isolated ground protection.
- b. The age and condition of electrical systems vary throughout the district, as renovations and replacements have occurred over the years. Several facilities have distribution equipment that has surpassed a recommended useful life of 25 to 30 years.
 - i. A majority of the system at Ellison HS is original to the building (1976). It is also at capacity and is in need of an expansion.
 - ii. Electrical wiring is in poor condition in some areas of Killeen HS.
- c. Several facilities throughout the district have electrical distribution equipment that is now considered obsolete that is being recommended for replacement. This equipment is considered a potential fire hazard, so its replacement is being classified as a Tier 1 deficiency.
- d. Most lighting ballasts throughout the district are electronic and the standard fluorescent bulb size is T8.
 - i. The auditorium at Killeen HS is lit by 1000w incandescent bulbs that are being recommended for replacement.
- e. Many facilities lack lighting occupancy sensors, which can help buildings become more energy efficient and cost effective.

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13. Plumbing

- a. Urinal and water closet flush valves in most facilities are in good, working condition, though some units are showing signs of dezincification. Several buildings, mostly those constructed within the last decade, have been equipped with sensor activated automatic flush valves.
- b. Restroom lavatories are a combination of manual and metered faucets with Crane, American Standard, and Kohler porcelain. Many student restrooms utilize sensor activated 2 and 3 person wash stations.
 - i. There are lavatories and sinks at both Killeen HS and Harker Heights HS that are in poor condition and are being recommended for replacement.
- c. Halsey-Taylor, Oasis, and Elkay manufacture a majority of the electric water cooler drinking fountains throughout the district's facilities. Due to varying facility ages, the condition of electric water coolers varies from building to building.
- d. A majority of KISD water heaters are manufactured by Rheem/Ruud, A.O. Smith, and State Select. A majority of the water heaters throughout the district are in good to moderate condition, though some have surpassed the end of their useful life.
 - i. There are four water heaters at Ellison HS and six water heaters at Killeen HS that are being recommended for replacement.
- e. Sewer and plumbing piping at most facilities is in good to moderate condition.
 - i. The piping in some areas of Killeen HS is in poor condition, with several water line breaks having occurred over the years. Also, the sewer piping near the building's auditorium is in poor condition. KISD has expressed concerns regarding exposed gas and water spouts at the campus. These spouts need to be covered in order to preserve the condition of the piping.

14. Fire Protection / Fire Alarm:

- a. Silent Knight manufactures the fire alarm system utilized at almost all KISD facilities, and most systems are 2004 or newer. The recommended useful life for fire alarm systems is 12 years.
 - i. The fire alarm at the Killeen HS field house was installed in 1992 and is well past the recommended useful life.
 - ii. All high school fire alarm systems currently have Blue Tag status.
- b. The installation of a fire protection sprinkler system is being recommended for any campus that does not currently have one.
 - i. None of the four KISD high schools has a fire protection sprinkler system in place at this time.

15. Energy Management System (EMS):

- a. Alerton control systems are utilized at all KISD campuses. The recommended useful life for EMS controls is 12 to 15 years. The controls systems at Shoemaker HS, Killeen HS, and Harker Heights HS were installed in 2006. The age of the controls at Ellison HS varies, as additions to the building have been constructed and new HVAC equipment installed.

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16. Security:

- a. The "Off Campus Lunch" program available to the High School students has been in place for years and no doubt has provided students with a sense of maturity and freedom in addition has provided economic opportunity for community business. The down side is security control is extremely challenging for the district. Student safety is often at risk while crossing the multilane roads adjacent to the high school campuses.
- b. Most campuses have varying levels of need related to general campus safety from a global standpoint to protect students, staff, and building infrastructure.
- c. Despite investing in an access control system (keyless entry) there is not a facility in the District that can continually monitor the status of their exterior doors during the day while the students are inside the building. All of the high schools and nearly all of the Middle and Elementary campuses lack the ability to physically control the path of a visitor entering the building.
- d. Perimeter fencing on the campuses is limited. Properly designed fencing is the first step in establishing an effective perimeter that establishes the demarcation between the public and private space, deter trespassing, increase the likelihood of detecting someone trying to gain access and delay the time it takes to enter the campus.
- e. Exterior surveillance has been improved on the high school campuses but areas of the property remain unobservable especially in areas of the high school field houses, athletic fields, parking lots, and portable classroom areas.
- f. Intercom coverage on the exterior of some of the high school campuses was limited or undetectable in the high school field house exterior areas, practice fields and some limited portions of the campus.
- g. Exterior lighting varies in coverage and consistency. Limited lighting combined with the architecture of the buildings creates hiding places where people can hide or loiter unseen. Lighting not only impacts the safety and security of the students and staff on campus at night but can also impact the effectiveness of the surveillance cameras around the exterior of the property.
- h. Telecommunication rooms that support the delivery of KISD data, voice and security systems lack the room security and needed cooling systems in order to safeguard and extend the life span of the District network electronics and to meet industry standards.

17. Food Service:

- a. Currently all the high schools are operating as open campuses which means the students can leave campus for lunch. The current participation levels run from 30% to 43%. All of the high schools operate under Two (2) lunch periods of approximately 500 students per period. All of the high schools are operating normally with the current levels with the exception of storage space due to deliveries coming once per week. The day of deliveries taxes the storage capabilities of almost all of the high schools causing the goods to be stored in isle ways, stacked on the floor. This is a safety issue as well as a code issue, this could be relieved with multiple deliveries per week.

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- b. The life safety issues at all the high schools were minimal. Storage area as previously mentioned, quantity of hand lavatories, number of restrooms, room finishes and One (1) case of block mold were the general findings.
- c. Some of the production equipment, holding equipment and serving counters will need to be replaced soon due to age and wear. While replacing serving lines, redesigning of serving areas might be beneficial to make them more efficient.
- d. If the campuses choose to go to a close campus policy, none of the facilities will be equipped to handle three times the current participation. New facilities will need to be built to handle the population.

Currently the cafeterias are maximized, and adding additional lunch periods would not suffice for storage nor production.

NEXT STEPS

While the work of this High School Facility assessment is complete from a data gathering perspective, the real work is only beginning. The next steps are to consider options, tie the identified work to the strategic plan now under development, prioritization of the needs, and work with the Administration, the Board of Trustees, and possibly a citizens committee to gain consensus and support for advancing the district forward with a plan that meets the needs of Killeen ISD for decades to come.