Bowie High School Site Summary

Address	4103 W. Slaughter Lane Austin, TX 78749
Number of Permanent Campus Facilities	7
Original Year of Construction	1988
Total Campus Building Area (combined)	422,688 SF

Introduction

The Bowie High School campus is located at 4103 W. Slaughter Lane in Austin, Texas. Bowie High School was established in 1988, and consists of a stand-alone classroom building along with six additional campus buildings. The permanent campus buildings include the Administration Building (BLDG-013A), the Stand-Alone Classroom Building (BLDG-013B), the Smaller Greenhouse (BLDG-013C), the Larger Greenhouse (BLDG-013D), the Vocational/Art/Shop Building (BLDG-013E), the Mechanical Building (BLDG-013F), and the Stand-Alone Gymnasium/ Theater/Cafeteria Building (BLDG-013G). The buildings are connected to one another by a series of exterior semi-covered concrete sidewalks.

Meeting Log		Revision Log		
Date	**Meeting**	**Revision**	**Date**	**Summary of Content**
8/8/16	Interview	00	9/23/16	Draft Issue
8/8-8/10/16	Assessment	01	11/21/16	Added comments from Senior Architect Florence Rice as indicated on email dated 10/28/16. See pages 1, 4, 10, 12, and 29.
10/11/16	Cluster Meeting (Attended)	02	12/21/16	Added comments from PE Rumman Zamir as indicated on email dated 10/28/16. See page 61.

Main School Building – BLDG-0137A

Building Purpose	Administration
Building Area	14,647 SF
Inspection Date	August 8, 2016
Inspection Conditions	100°F - Sunny
Facility Condition Index	

System Deficiency Overview

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The exterior walls of the building are finished with brick. Where the roof reaches its peak, a large metal panel fascia accents the top of the wall. The walls were observed to be in good condition with no visible damage.	Good
	Exterior Windows	The exterior windows consist of operable single pane windows in metal frames. The bottom half of the window assembly is metal paneling. The exterior windows were observed to be in average condition because excessively peeling paint was observed on the exterior side of the window frames.	Average
	Exterior Doors	The main exterior doors to the building are comprised of metal double doors that are fully glazed set in a metal storefront system. The remaining service doors are metal, and many of the doors are glazed. The exterior doors were observed to be in average condition due to scratched paint, and rust.	Average
Roofing	The roof is a standing seam metal roof. The roof was inaccessible due to its steep slope. There are pre-finished metal gutters and downspouts at the perimeter. The roof was observed to be in good condition from ground level; minimal evidence of water damage was observed in the interior of the building.		Average

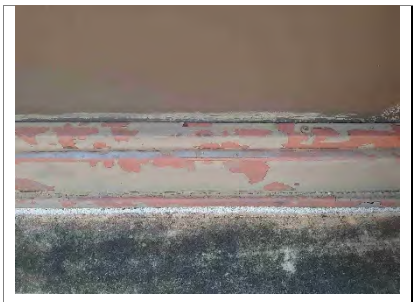
System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Interior Construction	Interior Walls	The interior walls are constructed with metal studs covered in drywall. The interior walls were observed to be in good condition as the only damage observed was to the finishes.	Good
	Interior Doors	The interior doors are metal set in metal frames. Some doors have narrow side lites. The door frames were observed to be in average condition as they were excessively scratched, but the door leafs were observed to be in good condition.	Average
	Interior Specialties	System not present.	N/A
Stairs	Exterior Stairs	System not present.	N/A
	Interior Stairs	System not present.	N/A
Interior Finishes	Interior Wall Finishes	The walls are finished with painted drywall and FRP (fiber reinforced plastic) paneling. The restroom walls are finished with ceramic tile. The interior walls were observed to be in good condition except for a few areas of isolated damage. The corners of the FRP-covered walls were observed to be damaged at the base of most corners. The plastic corner guards present in the building were observed to be broken. There was slight staining observed on the wall paneling and some separation at abutting panels. The tile and drywall walls were observed to be in good condition.	Average
	Interior Floor Finishes	The floors are finished in tile and carpet tile and rubber base. There is also VCT (vinyl composition tile) in alcoves and ceramic tile in the restrooms. The floor finishes were observed to be in good condition, though there are a few missing VCT tiles in the supply closet.	Good
	Interior Ceiling Finishes	The building's ceilings are comprised of ACT (acoustic ceiling tile) and drywall. The ceilings were observed to be in average condition with some small holes in the tiles and some popped-out ceiling tiles. Very slight rusting was observed on a small amount of ceiling tees. The drywall ceiling in the single-person restroom was observed to be damaged and peeling; two small water spots were observed.	Average
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	The building has a male and female public restrooms as well as separate private restrooms for faculty members. The urinals are wall-hung and the toilets	Poor

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		are floor-mounted, vitreous china. The sinks are stainless steel with manual faucets, and the toilets and urinals have manual flush valves. The public male and female restrooms do not have a hot water line. There were several observed deficiencies with the plumbing fixtures. The building was observed to have low water pressure and the urinal in the male faculty restroom did not flush properly.	
	Domestic Water Distribution	There is an EWH (electric water heater) located in the main mechanical room. The EWH appeared to be original to the building. The water heater was observed to be rusted and aged. The water did not become warm for the fixtures that had hot water lines. This unit was observed to be in poor condition.	Poor
	Other Plumbing	System not present.	N/A
Mechanical/ HVAC	The major mechanical equipment in this building consists of three indoor draw-thru AHUs (air handling units) and a FCU (fan coil unit). The thermostats throughout this building were observed to be aged. The AHUs were aged as well, although it was observed they had been repaired at some point. One of the AHUs had a new fan belt, while the exterior was corroded in some areas. These AHUs appeared to be original to the building and aged past their design service life.		Poor
Fire Protection	Fire Alarm	The building has a fire alarm system that consists of alarm and signaling devices such as voice/annunciators, strobes, voice/strobe combinations, pull stations, and detectors. The fire alarm system is controlled by a Silent Knight VIP voice command center fire alarm control panel (voice evacuation type), that is located in the administration front desk area. All assessments appear to be current. The fire alarm system appeared to be in good condition.	Good
	Fire Protection/ Suppression	This building does not have a sprinkler system. Fire extinguishers are placed throughout the building for protection in the event of a fire. The equipment appeared to be in good condition, and the observed inspection tags were current.	Good
Electrical	Electrical Distribution	The electrical service enters the building at the 277/480-volt 225-amp panelboard A-H1 located in the mechanical room near the administration area. Panel A-H1 feeds a 30kVA transformer that feeds a 120/208-volt 100A panelboard A-L1. The building	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		does not have a lightning protection system. The electrical distribution equipment appeared to be in average condition. Facility staff reported that the conduits in the crawlspace were EMT (electrical metallic tubbing, thin-wall conduit) and were severely corroded. Because of this, it was reported that the integrity of the electrical grounding system had been compromised, as the conduit system was the grounding system for the facility.	
	Lighting	The interior lighting consists of 2x4 fluorescent light fixtures. The exterior lighting consists of HID (high intensity discharge) pole mounted light fixtures and building mounted “wall pack” fixtures. About 85% of spaces have occupancy sensors, and 15% have manual switches. The lighting for the building appeared to be in average condition. About 60% of the light fixtures showed signs of wear and age. Observed deficiencies included broken lenses, inconsistent color temperatures, and non-functional fixtures. There are exit signs present in the building; however, 95% appeared to be from the original construction and were at the end of their design service life. It was reported that emergency lighting in the building was accomplished by integral batteries in select 2x4 fluorescent fixtures, but that these batteries did not function properly or were difficult to replace.	Average
	Communications & Security	There is a Gemini security system including surveillance cameras in the building. According to facility staff, more cameras and card readers are needed throughout the campus, and a comprehensive security survey may be necessary to determine the full extent of the security needs. There is a public address system in the building, and it was observed to be in average condition. The facility staff reported that the system did not function in a few areas, was too loud, and had poor sound quality. The building is equipped with telecommunication systems, but the main backbone equipment is located in an inaccessible room. It was reported that the traditional phone system was being replaced by a new VOIP (voice-over-internet protocol) system.	Average

Exterior System Deficiency Examples

Exterior Windows



Exterior Doors

Interior Construction Deficiency Examples

Interior Doors

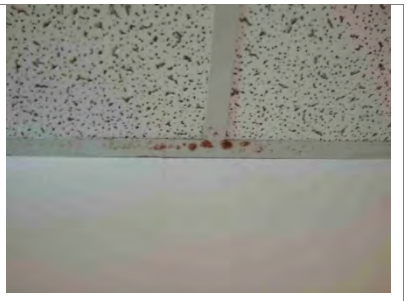
Interior Finishes Deficiency Examples

Interior Wall Finishes

Interior Floor Finishes

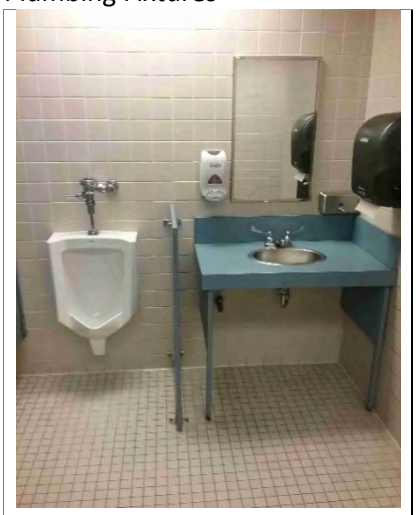
Interior Ceiling Finishes





Plumbing System Deficiency Examples

Plumbing Fixtures

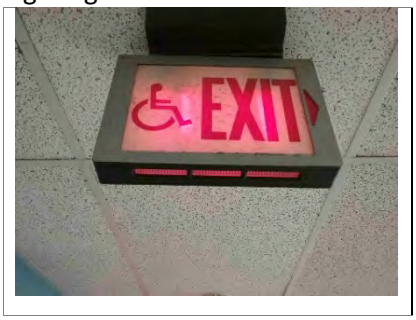


Domestic Water Distribution

Mechanical/HVAC System Deficiency Examples

Electrical System Deficiency Examples

Lighting



Stand-Alone Classroom Building – BLDG-013B

Building Purpose	Classrooms
Building Area	266,168 SF
Inspection Date	August 9-10, 2016
Inspection Conditions	102°F - Sunny
Facility Condition Index	

System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The exterior walls of the building are finished with brick and plaster. Where the roof reaches its peak, a metal fascia accents the top of the wall. The walls were observed to be in good condition with no visible damage.	Good
	Exterior Windows	The exterior windows are a metal frame system oriented in horizontal bands. They comprise much of the exterior walls. They are single pane glazing. Light shelves are present on the interior of the side of the windows and sunshades on the exterior. The windows on the south side of the building have a metal shading system in place. As the corridor of the building is unconditioned, there is an open-air metal clerestory system at the top of the second floor. The window system is in good condition and the majority of the windows are dirty on the exterior side. The exterior sunshades are in average condition with much peeling paint. Ants were observed entering room 207F through the window frame.	Good
	Exterior Doors	The main entry exterior doors exist on the north side of the building. There are six glazed double doors with transom windows above them. The doors are painted metal, as are the frames. The remaining service doors are also metal, most with full glazing. Worn paint was observed on the doors at typical spots of high use. Rust was also observed to exist behind the door hardware on the exterior side of some doors and	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		on the frames of other doors. The threshold sealant leading through the main doors was observed to be deteriorated or missing.	
Roofing	The roof is a standing seam metal roof. The roof was inaccessible due to its steep slope. The roof was observed to be in good condition from ground level.		Good
Interior Construction	Interior Walls	The interior walls are constructed of metal studs covered with drywall. A few of the classrooms have fabric folding partitions dividing them. The interior walls were observed to be in good condition, except that the operable partitions were observed to be difficult to operate.	Good
	Interior Doors	The interior doors are metal in metal frames. The classroom doors have wired narrow side lites. There are two overhead steel shutters recessed into the ceiling at each end of the corridors in the building. The interior doors were observed to be in average condition with typical scuffed frames and scratched paint. The frames exhibited some rusting at the bases. The overhead shutters were recessed at the time of assessment, but the tracks appeared to be in poor condition; some tracks were observed to taper at the bottom or be dented in the middle, prohibiting proper shutter deployment.	Average
	Interior Specialties	There are wall-mounted painted metal lockers in the corridor of the building. The lockers were observed to be in average condition; the exterior was observed to be in good condition, but the interior of the lockers showed signs of rust.	Average
Stairs	Exterior Stairs	System not present.	N/A
	Interior Stairs	There are many interior stairs in the building. They are all cast-in place concrete with metal nosing. The handrails are painted metal. The interior stairs were observed to be in average condition due to use and age. Spalling was observed on many of the stair risers. Some rebar was observed to be exposed at spalled portions. The paint on the handrails was observed to be excessively scratched and peeling.	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Interior Finishes	Interior Wall Finishes	The interior walls of the corridors are finished with abuse-resistant paneling. The interior walls inside the classrooms and library are finished with painted drywall. It was observed that the paint finish inside the classrooms was beginning to crackle. A portion of the restroom walls on the first floor consist of filled-in window panes. The paint was observed to be peeled off of a large portion of the paneling. The auxiliary room between rooms 207F and 209F was observed to have excessively peeling paint on the walls. A strong odor was observed in the science rooms in the E-wing.	Average
	Interior Floor Finishes	The interior floor of the building corridors are sealed concrete. The classrooms are finished with VCT with rubber base. The restroom floors are finished with ceramic tile with a ceramic tile base. The library floor is finished with carpet. The culinary room floor is finished with a resilient epoxy flooring. The rubber base in many classrooms was observed to be dented and discolored. A portion of the ceramic tile base in a female restroom was observed to be broken. Some VCT was observed to be broken. A few tears and stains were observed in the library carpet.	Average
	Interior Ceiling Finishes	The first floor of the building does not have ceiling in the corridor; the concrete waffle slab of the floor above is exposed. The ceiling of the second floor is painted drywall, as are the ceilings of the restrooms. The classrooms have ACT ceilings. The library ceiling is metal panel and drywall. The culinary room ceiling is water resistant ceiling tiles. Water damage was observed on a soffit near the male restroom on the first floor. The ceiling access panel in another male restroom on the first floor was observed to have water damage as well. Water damage was observed in the mechanical ductwork soffit of one wing of the building. Water was observed inside one light fixture, and the ceiling tiles themselves were damaged and bowing. Suspected mold was observed where this soffit was covered in drywall facing. This condition was observed on both sides of the B-wing. The majority of the ACT tiles in the building were observed to be bowing. A few ceiling tiles were observed to be missing. Discolored and deteriorating ceiling tile tees were observed in the culinary room. The auxiliary room between rooms 207 F and 209 F was observed to have water-damaged ceiling tiles with evident mold.	Average

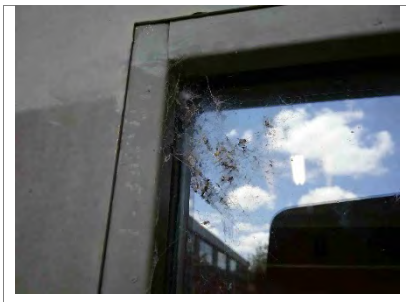
System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	The building has a male and female public restrooms as well as separate private restrooms for faculty members. The urinals and toilets are mainly wall-hung, vitreous china. The sinks are stainless steel with manual faucets, and the toilets and urinals have manual flush valves. The plumbing fixtures in wing A were observed to have low water pressure. There was also a toilet that had a malfunctioning flush valve. Many of the urinals did not flush properly.	Poor
	Domestic Water Distribution	There is a gas water heater and an electric water heater on the second floor of the building. The GWH (gas water heater) near AHU 610 was rusted on the exterior. The distribution piping associated with the unit appeared to be new and well maintained. Many of the faucets in the building were not receiving hot water at the time of the assessment. The unit appeared to be past the design service date. The system as a whole was given an average rating.	Average
	Other Plumbing	There are floor drains located throughout the building near the plumbing fixtures. The floor drains that were observed, did not have any observed water collection near the fixtures. They were not excessively damaged or rusted. The floor drains throughout the building were observed to be in good condition.	N/A
Mechanical/ HVAC	The main mechanical equipment in this building consists of draw-thru AHUs, heat pumps, and vertical FCUs in each classroom. The main corridors were not air-conditioned. The vertical FCUs located in the classrooms throughout the building were in poor condition. They appeared to be aged and past their service dates. Classroom E105 had two horizontal water source heat pumps. Only one of the heat pumps was operational. The sidewall grilles in the main corridors were damaged and rusted. The supply diffusers in the classrooms in wing B were damaged.		Poor
Fire Protection	Fire Alarm	The building has a fire alarm system that consists of alarm and signaling devices such as voice/annunciators, strobes, voice/strobe combinations, pull stations, and detectors. The fire alarm system is controlled by the campus main fire alarm control panel. The fire alarm system appeared to be in good condition.	Good
	Fire Protection/ Suppression	This building does not have a sprinkler system. Fire extinguishers are placed throughout the building for protection in the event of a fire.	Good

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		The equipment appeared to be in good condition, and the observed inspection tags were current.	
Electrical	Electrical Distribution	The electrical service enters the building at the 277/480-volt 1600-amp distribution panel HDP3 located in the mechanical room that contains AHU-605. Distribution panel HDP3 is served from the main switchboard MSB located in the mechanical building. 'This panel feeds transformers and branch panelboards, which are located in various electrical rooms throughout the building. The building does not have a lightning protection system. The electrical distribution equipment appeared to be in average condition. About 60% of the assets were observed with corrosion. Panelboard SWLB and ELF were observed with missing breaker covers, and the bussing was exposed behind the breaker boards. This condition could be considered a life safety hazard. Facility staff reported that the conduits in the crawlspace were EMT and were severely corroded. Because of this, it was reported that the integrity of the electrical grounding system had been compromised, as the conduit system was the grounding system for the facility.	Average
	Lighting	There are fluorescent striplights in corridor areas and 2x4 high-bay fluorescent fixtures suspended down the center of breezeway areas in each wing. Classrooms have 2x4 fluorescent light fixtures. Occupancy sensors are present in classrooms. The emergency lighting units in the breezeway areas appear to be from the original construction. The library has HID (high-intensity discharge) high-bay light fixtures in the main library space and 2x4 fluorescent fixtures in the remaining spaces. The exterior lighting consists of HID (high intensity discharge) pole mounted light fixtures and building mounted "wall pack" fixtures. Lighting for the entire building appeared to be in average condition. Many interior and exterior light fixtures showed signs of wear and tear. Observed deficiencies included broken lenses, inconsistent color temperatures, and non-functional fixtures. In room B104, water accumulation was observed in some 2x4 fixtures, and this should be corrected immediately. Lighting in the library appeared to be in good condition.	Average

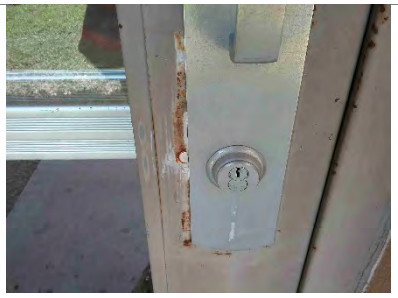
System	Subsystem	Condition and Deficiency Overview	System Condition Rating
	Communications & Security	There is a Gemini security system including surveillance cameras in the building and on the exterior of the building. According to facility staff, more cameras and card readers are needed throughout the building to provide sufficient security coverage. There is a public address system in the building, and it appeared to be in average condition. The facility staff reported that the system did not work in a few areas, was too loud, and had poor sound quality. The building is equipped with telecommunication systems. There are Wi-Fi points in each classroom and in the breezeway and corridor areas.	Average

Exterior System Deficiency Examples

Exterior Windows



Exterior Doors

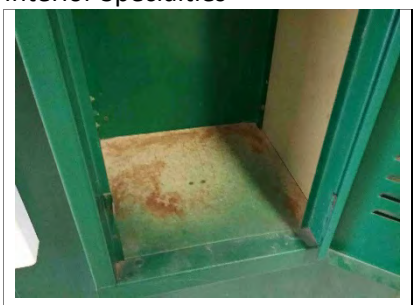




Interior Construction Deficiency Examples

Interior Doors




Interior Specialties



Stairs Deficiency Examples

Interior Stairs



Interior Finish Deficiency Examples

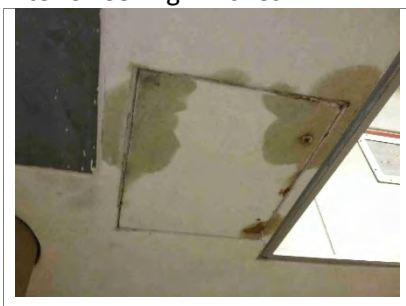
Interior Wall Finishes



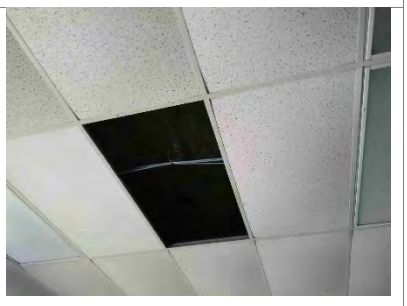
Interior Floor Finishes

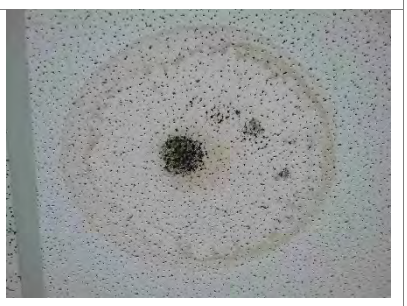



Interior Ceiling Finishes



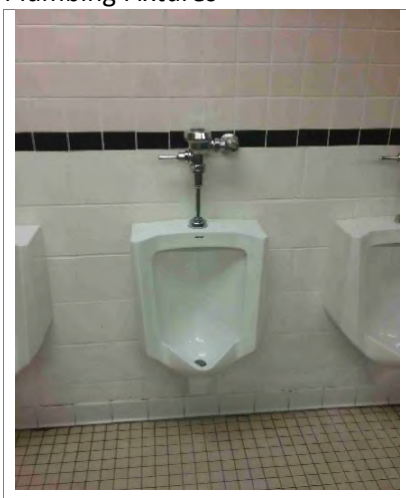


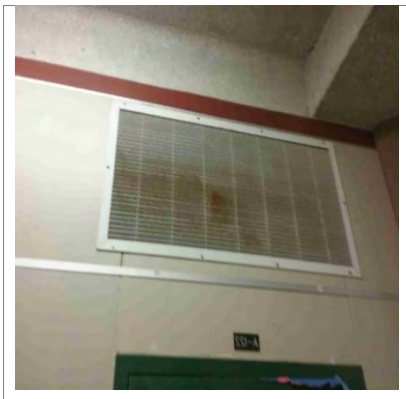
Plumbing System Deficiency Examples

Plumbing Fixtures




Domestic Water Distribution


Mechanical/HVAC System Deficiency Examples



Electrical System Deficiency Examples

Electrical Distribution

Lighting

Smaller Greenhouse – BLDG-013C

Building Purpose	Greenhouse
Building Area	634 SF
Inspection Date	August 8, 2016
Inspection Conditions	100°F - Sunny
Facility Condition Index	

System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

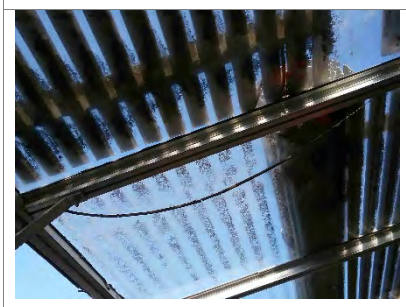
System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The exterior walls are brick and glass, set on a concrete foundation wall. The brick walls were observed to be in good condition, but the concrete foundation wall showed signs of separating. Water intrusion was also observed to be seeping through the concrete.	Good
	Exterior Windows	The walls and roof of the building are comprised of single pane windows in a metal frame. The windows create a gambrel, and they are largely covered with manually-operated metal sun shades. There were two missing window panes observed on opposite sides of the building. One is broken in its frame, posing a safety hazard. The windows were observed to be dirtied behind the shades. Some weather stripping was observed to be hanging down loosely.	Poor
	Exterior Doors	There are two exterior doors on either side of the building. They are metal-framed doors, half-glazed with aluminum panels on the lower half. The doors were observed to be in good condition, but one door was observed not to be plumb.	Average
Roofing	The exterior windows turn to become the roof. A roof system is not present.		N/A
Interior Construction	Interior Walls	System not present.	N/A
	Interior Doors	System not present.	N/A
	Interior Specialties	System not present.	N/A
Stairs	Exterior Stairs	System not present.	N/A

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
	Interior Stairs	System not present.	N/A
Interior Finishes	Interior Wall Finishes	System not present.	N/A
	Interior Floor Finishes	The interior floor consists of a raised concrete walkway surrounding gravel pits. The floors were observed to be in good condition, sloping correctly to the pits.	Good
	Interior Ceiling Finishes	System not present.	N/A
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	System not present.	N/A
	Domestic Water Distribution	System not present.	N/A
	Other Plumbing	System not present.	N/A
Mechanical/ HVAC	The mechanical equipment consists of two evaporator units, a fan tube jet, and a unit heater. The mechanical system was observed to be in poor condition. There was a torn membrane and parts of the exterior were rusted on the fan tube jet. The unit heater was corroded and appeared to be aged past its design service life. The evaporators were observed to be operational, but had rust on the exterior housings.		Poor
Fire Protection	Fire Alarm	System not present.	N/A
	Fire Protection/ Suppression	System not present.	N/A
Electrical	Electrical Distribution	The electrical load center is located on the exterior wall of the greenhouse. The building does not have a lightning protection system. The electrical load center appeared to be in average condition, with considerable corrosion on its enclosure.	Average
	Lighting	The lighting consists of 4-foot fluorescent striplights. The lighting for the building appeared to be in average condition. The light switch was not working. There are no exit signs present in the building.	Average
	Communications & Security	System not present.	N/A

Exterior System Deficiency Examples

Exterior Windows



Exterior Doors

Mechanical/HVAC System Deficiency Examples


Larger Greenhouse – BLDG-013D

Building Purpose	Greenhouse
Building Area	912 SF
Inspection Date	August 8, 2016
Inspection Conditions	100°F - Sunny
Facility Condition Index	

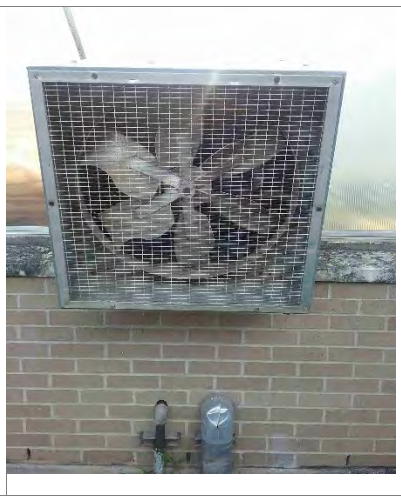
System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The lower half of the exterior wall is brick on the concrete foundation. The remaining half of the exterior walls are comprised of exterior windows. The wall was observed to be in average condition with broken concrete sills at three of the four corners. Discoloration was observed, as were small amounts of organic growth.	Average
	Exterior Windows	The top half of the walls and the roof are comprised of windows. The windows are channeled acrylic, single pane, and are set in metal frames. There are also sliding windows in the base of the brick wall. These windows are glass. There are also metal louvers at the backside of the building. Corrugated cardboard is being used as a filter set over the louvers. Some of the metal louvers were observed to be broken or missing, and the filter paper was observed to be askew and torn. The weather stripping on some of the sliding windows were observed to be falling. The paint was observed to be in good condition, as were the metal frames.	Average
	Exterior Doors	There is one exterior door to the building. It is fully glazed in a metal frame. The door was observed to be in average condition as portions of the frame were missing.	Average
Roofing	The exterior windows turn to become the roof. A roof system is not present.		N/A

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Interior Construction	Interior Walls	System not present.	N/A
	Interior Doors	System not present.	N/A
	Interior Specialties	System not present.	N/A
Stairs	Exterior Stairs	System not present.	N/A
	Interior Stairs	System not present.	N/A
Interior Finishes	Interior Wall Finishes	System not present.	N/A
	Interior Floor Finishes	The interior floor of the building is comprised of gravel. The floor was observed to be in good condition.	Good
	Interior Ceiling Finishes	System not present.	N/A
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	System not present.	N/A
	Domestic Water Distribution	System not present.	N/A
	Other Plumbing	System not present.	N/A
Mechanical/ HVAC	The mechanical equipment consists of two fans, a fan tube jet, and a unit heater. The mechanical equipment in this structure was observed to be aged and in poor condition. The exterior housing of the fan tube jet was damaged and corroded. The unit heater was corroded and needed to be replaced. The fan tube jet did not have a membrane, and the two fans supplying outside air to the space appeared to be aged.		Poor
Fire Protection	Fire Alarm	System not present.	N/A
	Fire Protection/ Suppression	System not present.	N/A
Electrical	Electrical Distribution	The electrical load center is located on the exterior wall of the greenhouse. The building does not have a lightning protection system. The electrical load center appeared to be in average condition, with a considerable amount of corrosion on its enclosure.	Average
	Lighting	The lighting consists of 4-foot fluorescent striplights. There are no exit signs present in the building. The lighting for the building appeared to be in average condition.	Average
	Communications & Security	System not present.	N/A

Mechanical/HVAC System Deficiency Examples

Exterior System Deficiency Examples

Exterior Walls



Exterior Windows



Exterior Doors

Vocational/Art/Shop Building – BLDG-013E

Building Purpose	Vocational, Art, and Woodshop Classrooms
Building Area	27,582 SF
Inspection Date	August 8-9, 2016
Inspection Conditions	August 8 - 100°F and sunny August 9 - 102°F and sunny
Facility Condition Index	

System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The exterior walls of the building are finished with brick. Where the roof reaches its peak, a metal fascia extends over the edge of the wall to a maximum of ten feet. The exterior walls were observed to be in good condition with only a few areas of discoloration due to water.	Good
	Exterior Windows	System not present.	N/A
	Exterior Doors	The main exterior doors to the building are comprised of metal double doors that are fully glazed. The doors are set in a system of transom windows and side lites. The remaining service doors are metal, and there is another set of glazed double doors with transom windows above them. The building has ten exterior overhead roll up doors; eight are found in the weight room. Some of the overhead doors are blocked and appear to be out of use. The exterior doors were observed to be in average condition due to chipped finishes and minimal rusting. The metal stripping at the door thresholds were observed to be broken. The weight room overhead doors appeared to have been installed to be electrically operated but were observed to be manually operated. The weather stripping at the base of each door was observed to be loose, and the doors were not weather-tight; water damage was noted on the ceiling around the art room overhead door.	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Roofing	The roof is a standing seam metal roof. The roof was inaccessible due to its steep slope. The roof was observed to be in average condition from ground level due to water-damage on the interior ceiling finish.		Average
Interior Construction	Interior Walls	The interior walls are constructed with metal studs covered in drywall and also with CMU (concrete masonry unit) construction. The interior walls were observed to be in good condition except for a couple of isolated deficiencies. A fist sized hole was observed in a drywall wall in the art room. Dents were also observed at the wall corners of the drywall walls.	Good
	Interior Doors	The interior doors are metal in metal frames. Many doors have narrow wire glass side lites. The interior doors were observed to be in average condition because of chipped finishes on the doors and frames. There was also a dented door in the G-wing.	Average
	Interior Specialties	There are a small number of lockers in the male and female restrooms of the art classroom. The lockers were observed to be in average condition because some did not open.	Average
Stairs	Exterior Stairs	System not present.	N/A
	Interior Stairs	System not present.	N/A
Interior Finishes	Interior Wall Finishes	The interior walls are finished with painted CMU and painted drywall. The restrooms walls are finished with glazed ceramic tile. The wall finishes were observed to be in average condition as much of the paint was observed to be crackling and peeling.	Average
	Interior Floor Finishes	The floors in the school include VCT, ceramic tile and athletic rubber flooring. The dance studio has a VCT floor made to resemble wood. The veterinary classroom has a ceramic tile floor. Two of the classrooms have sealed concrete floors. The VCT was observed to be in average condition, with isolated broken tiles and cracked VCT flooring near the wall edges. Some VCT were observed to be separated at the joints. The rubber base in the corridor was observed to be aged, and the rubber base in the agricultural classroom was observed to be peeling from the wall completely. The concrete floors were observed to be in good condition. The floor finish in the veterinary room was also observed to be in good condition.	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
	Interior Ceiling Finishes	The ceilings in the weight room, its auxiliary rooms, and the agriculture room are painted dry wall. The rest of the building ceiling is finished with ACT. The ceiling finish was observed to be in average condition as much of the paint was observed to be crackling and peeling from the drywall ceilings. The ceiling in the agriculture classroom was observed to have water damage. Some ACT was observed to have holes or cracks. Water-damaged and bowing tiles were observed in the computer lab office. There were many small tears observed in the ACT ceilings.	Average
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	The building has separate male and female restrooms in the weight room and near the laboratory area. The plumbing fixtures in this building consist of vitreous china wall-hung urinals and floor-mounted toilets. The hand sinks are stainless steel with manual faucets. The urinals and toilets have manual flush valves as well. The fixtures in this building were observed to be in poor condition. The faucets in the male and female restrooms near the gymnasium were loose. The hot water was not operating at the time of assessment, and the toilets did not flush well. The water pressure was observed to be low for various faucets and water fountains throughout the building.	Poor
	Domestic Water Distribution	The classrooms in this building are serviced with hot water. The gas water heater in this building appeared to be operational and had new distribution piping. Although the fixtures were not getting hot water to them, the water heater itself appeared to be in good condition.	Good
	Other Plumbing	System not present.	N/A
Mechanical/ HVAC	The major mechanical equipment in this building consists of exhaust fans, indoor AHUs, and heat pumps. Many of the diffusers throughout the building were dirty, which could cause low air quality and health issues for students and faculty. The AHUs in the mezzanine areas were observed to be in poor condition. Some of the units appeared to be under repair or were not in use. Room G108 was warm, and the diffusers throughout the building were corroded.		Poor
Fire Protection	Fire Alarm	The building has a fire alarm system that consists of alarm and signaling devices such as voice/annunciators, strobes, voice/strobe combinations, pull stations, and detectors. The fire alarm system is controlled by the campus's main fire alarm control	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		system. The fire alarm system appeared to be in average condition, as 35% of the end devices were aged past their design service life.	
	Fire Protection/ Suppression	This building does not have a sprinkler system. Fire extinguishers are placed throughout the building for protection in the event of a fire. The equipment appeared to be in good condition, and the observed inspection tags were current.	Good
Electrical	Electrical Distribution	The electrical service enters the building at the 277/480-volt 800-amp distribution panel HDP located in the theater wing mechanical room. Distribution panel HDP1 is served from the main switchboard MSB located in the mechanical building. HDP1 feeds transformers and branch panelboards located in various electrical rooms throughout the building. The building does not have a lightning protection system. The electrical distribution equipment appeared to be in average condition. About 40% of the assets were observed with corrosion. Panelboard 1A-LB and 1A-LV had missing breaker covers, and the bussing was exposed behind the breaker boards. This condition should be considered a life safety hazard. It was also reported that the conduits in the space were EMT and were severely corroded. Because of this, it was reported that the integrity of the electrical grounding system had been compromised, as the conduit system was the grounding system for the facility.	Average
	Lighting	Lighting in this building consists of fluorescent striplights in the gymnasium and 2x4 recessed fluorescent fixtures in the remaining spaces. About 65% of the building has occupancy sensors; the remaining controls are manual. The exterior lighting consists of HID (high intensity discharge) pole mounted light fixtures and building mounted “wall pack” fixtures. The lighting for the building appeared to be in average condition. About 75% of the light fixtures showed signs of wear and tear. Observed deficiencies included broken lenses, inconsistent color temperatures, and non-functional fixtures. There are exit signs present in the building; however, 25% appeared to be non-functional at the time of assessment.	Average
	Communications & Security	There is a Gemini security system including surveillance cameras in the building and on the exterior of the	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		building. According to facility staff, more cameras and card readers are needed throughout the building to provide sufficient security coverage. There is a public address system in the building, and it appeared to be in average condition. The facility staff reported that the public address system did not work in a few areas, was too loud, and had poor sound quality. The building is equipped with telecommunication systems. There are Wi-Fi points throughout the building.	

Exterior System Deficiency Examples

Exterior Walls

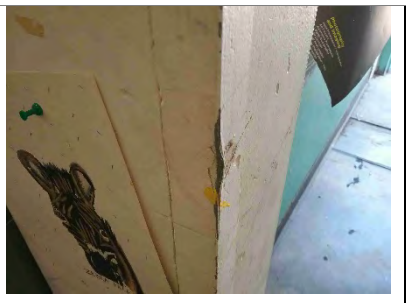
Exterior Doors





Interior Construction Deficiency Examples

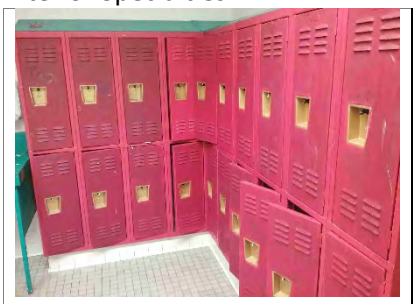
Interior Walls

Interior Doors



Interior Specialties

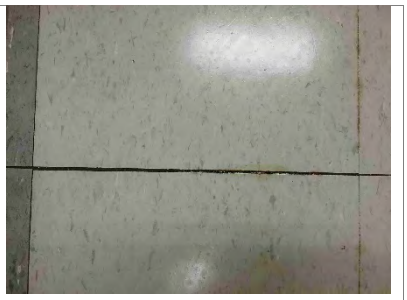


Interior Finish Deficiency Examples

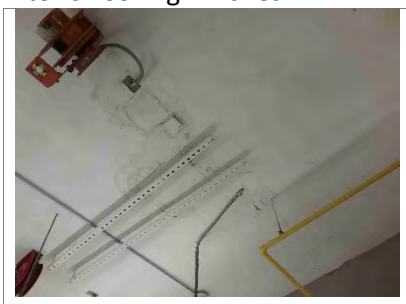
Interior Wall Finishes

Interior Floor Finishes






Interior Ceiling Finishes





Plumbing System Deficiency Examples

Plumbing Fixtures

Domestic Water Distribution

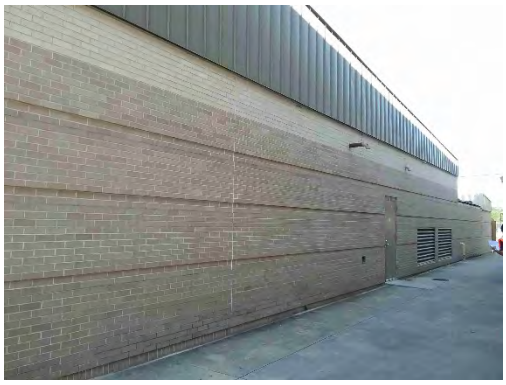
Mechanical/HVAC System Deficiency Examples

Fire Protection

Fire Alarm

Mechanical Building – BLDG-013F

Building Purpose	Mechanical Equipment
Building Area	5,461 SF
Inspection Date	August 8, 2016
Inspection Conditions	100°F - Sunny
Facility Condition Index	



System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The exterior walls are comprised of brick with a tall metal panel fascia. There are no windows in the exterior walls, but set into the walls are two large louvers with insect screens. The exterior walls were observed to be in good condition except for some isolated deficiencies. There was one isolated area of organic growth observed on the side of the building. There was also one isolated area of bent metal panel on the same side of the building. Additionally, the paint on the exterior louvers was observed to be extremely worn, and the interior insect screen was observed to be torn.	Good
	Exterior Windows	System not present.	N/A
	Exterior Doors	There is one exterior man door into the building and one overhead rolling door. There is one exterior overhead rolling door in the building, 10 feet wide and 12 feet tall. The door is segmented metal with three small vision windows. Both exterior doors were observed to be in average condition do to age and use. The man door was observed to be extremely scratched on the interior side of the door and the handle is broken. It appeared that the overhead door was installed as an electric door, but the chain was observed to not be present. The bottom of the door was observed to be dented and scratched, while the remainder of the door was observed to be lightly stained with calcium deposits. One pull handle was observed to be broken. The door was too heavy to	Average

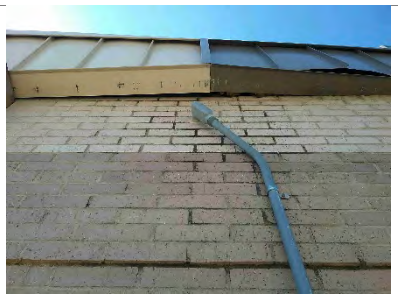
System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		lift but the tracks appeared in operable condition. The top of the door frame paneling was observed to be dented.	
Roofing	The roof is a standing seam metal roof. The roof was inaccessible due to its steep slope. The roof was observed to be in good condition from ground level.		Good
Interior Construction	Interior Walls	The interior walls are constructed with CMU construction. No deficiencies were observed in the interior walls. They appeared to be in good condition.	Good
	Interior Doors	The interior doors are metal in metal frames. The doors and frames were observed to be in average condition due to use; the paint was observed to be scratched and worn. One door frame was observed to be deteriorating at the base from rust.	Average
	Interior Specialties	System not present.	N/A
Stairs	Exterior Stairs	System not present.	N/A
	Interior Stairs	System not present.	N/A
Interior Finishes	Interior Wall Finishes	The interior walls are painted. The paint finish was observed to be in good condition with an isolated area of damage; the paint was observed to be peeling at the base of the wall in one corner and at the top of the wall inside the main electrical room.	Good
	Interior Floor Finishes	The interior floor is sealed concrete and painted concrete in the restroom. The floor finishes were observed to be in good condition with an isolated area of staining. The paint was also observed to be wearing away from the office restroom floor.	Good
	Interior Ceiling Finishes	The interior ceiling is finished with painted drywall. The paint of the ceiling finish was observed to be peeling excessively and discolored.	Poor
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	This building only has one private restroom located in a small office. This restroom is serviced with hot water. The sink has a manual faucet, and the toilet has a manual flush valve. The sink and toilet in this building was observed to be in good condition.	Good
	Domestic Water Distribution	This building has boilers connected to large storage tanks that are used to aid in domestic hot water supply.	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		The Lochinvar boilers were observed to be in average condition. The storage tanks should have eliminated the delay in hot water supply to the fixtures in the building, but this was not observed... This was a sign that the boiler system was not operating at optimal conditions and requires maintenance or repair.	
	Other Plumbing	System not present.	N/A
Mechanical/ HVAC	This building contains two chillers, cold water pumps, chilled water pumps, condensate pumps, unit heaters, two large boilers, several smaller Lochinvar boilers, and storage tanks. The chilled water pumps were extremely corroded and dirty at the base and in the surrounding area, but the pumps themselves were observed to be in average condition. The unit heaters were in good condition and were well maintained. The condensate pumps and hot water pumps were observed to be in good condition. Although the chillers were installed in 2007, it was observed that they had some wear and tear on the exterior. It was reported that they were undersized for the system. This may have caused early aging of the equipment due to it continuously operating at capacity.		Average
Fire Protection	Fire Alarm	The building has a fire alarm system that consists of alarm and signaling devices such as horns/ annunciators, strobes, horn/strobe combinations, pull stations, and detectors. The fire alarm system is controlled by the campus's main fire alarm control panel. The fire alarm system was observed to be in good condition.	Good
	Fire Protection/ Suppression	This building does not have a sprinkler system. Fire extinguishers are placed throughout the building for protection in the event of a fire. The equipment was observed to be in good condition, and the observed inspection tags were current.	Good
Electrical	Electrical Distribution	The electrical service enters the campus at the 277/480-volt 4000-amp main switchboard located in the main electrical room in this building. The main switchboard has six main disconnecting means. The service feeds transformers and distribution panelboards located in various electrical rooms throughout the campus. The electrical service has multiple sources: the main source appears to be the power company transformer, and the supplementary source appears to be a solar array installed on the roof. There is also a 250kVAR power factor bank at the facility. The building does not have a lightning protection system. The electrical distribution equipment appeared to be in	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		average condition. One of the mechanical pumps had exposed wiring. It was reported that the conduits in the crawlspace were EMT and were severely corroded. Because of this, it was reported that the integrity of the electrical grounding system had been compromised, as the conduit system was the grounding system for the facility.	
	Lighting	The lighting consists of fluorescent striplights hung from the structure. There are HID light fixtures installed on the exterior of the building. The lighting for the building appeared to be in good condition.	Good
	Communications & Security	There is a Gemini security system. There do not appear to be any surveillance cameras or card readers for this building. There do not appear to be any public address systems for this building. The building is equipped with a telecommunications system that was observed to be in good condition.	Poor

Exterior System Deficiency Examples

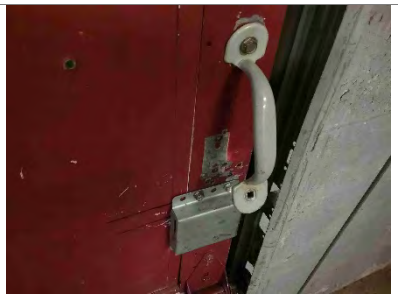
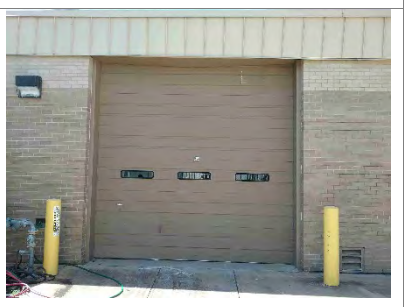
Exterior Walls

Exterior Doors

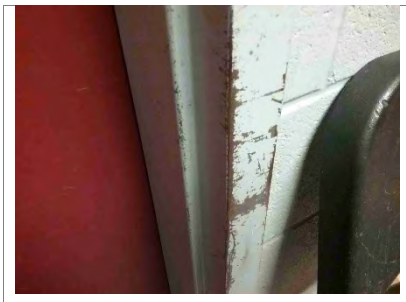




Interior Construction Deficiency Examples

Interior Doors

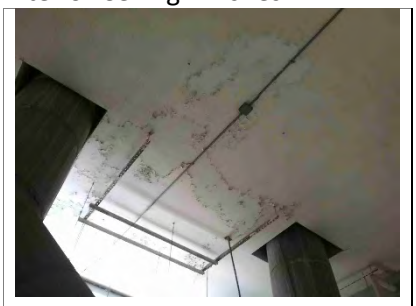



Interior Finish Deficiency Examples

Interior Wall Finishes


Interior Floor Finishes

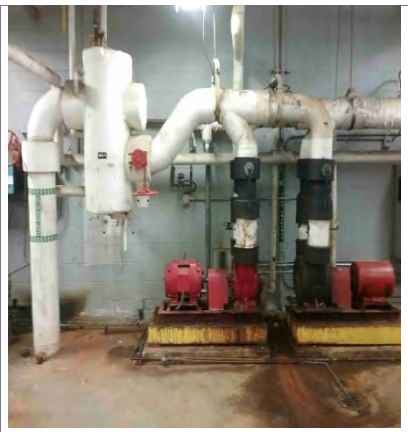

Interior Ceiling Finishes



Plumbing System Deficiency Examples

Domestic Water Distribution


Mechanical/HVAC System Deficiency Examples


Electrical System Deficiency Examples

Electrical Distribution

Stand-Alone Cafeteria, Gymnasium, Theater Building – BLDG-013G

Building Purpose	Cafeteria, Gymnasium, and Theater
Building Area	107,282 SF
Inspection Date	August 9, 2016
Inspection Conditions	102°F - Sunny
Facility Condition Index	

System Deficiency Overview

The following table provides a summary of the conditions and deficiencies found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Exterior	Exterior Walls	The exterior walls of the building are finished with brick and plaster. Where the roof reaches its peak, a metal fascia extends over the edge of the wall to a maximum of seven feet. The brick exterior walls were observed to be in good condition with very little damage visible. The plaster portions of the exterior walls were observed to be in poor condition with worn and peeled finishes. Additionally, the painted plaster soffits were observed to be peeling. One large stain was observed on the south wall from a spill.	Average
	Exterior Windows	The exterior walls of the corridor are comprised entirely of a metal frame window system. The frames are painted, and the glazing is single pane. The bottom half of the system is infilled with metal panels. Exterior windows were observed to be in good condition as little damage was observed. The damage that was observed consisted of worn paint finishes on the corners of the frames.	Good
	Exterior Doors	The entry exterior doors exist on two corners of the building. There are three sets of glazed double doors with transom windows above them. Doors are painted metal as are the frames. The remaining service doors are also metal. There two aluminum overhead rolling doors leading into the building. One is at the backstage of theater, and one leads to a storage room. The exterior doors were observed to be in average	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		condition from daily use. Much worn paint was observed on the frames and door leafs at areas of high use. Cobwebs were observed between the door and ceiling. Some of the glazing was observed to be scratched. Some of the door frames were observed to be dented. Both overhead doors appeared to be in good condition and be operable.	
Roofing	The roof of this building is standing seam metal. There is also a significant permanent canopy system providing coverage for the walkways between buildings. These canopies are set on large columns and are clad in plaster. Evidence of water damage was observed on the metal overhang on the south side of the building. Some of the gutters were observed to be rusted. Additionally, the large permanent canopy, which is finished with plaster, was observed to have significant water damage both near the columns and in the field of plaster.		Average
Interior Construction	Interior Walls	Interior walls are constructed of metal studs covered in one layer of drywall. A wall near the exterior door from the music room was observed to the extremely damaged with destroyed drywall and exposed middle studs. The metal stud was observed to be displaying some evidence of rust. A similar condition was observed at the cafeteria entrance doors.	Good
	Interior Doors	The interior doors are metal in painted metal frames. Some doors have narrow side lites. The doors were observed to be in average condition from normal wear and tear. The paint was observed to be heavily scratched from the door frames. The closers on the female locker room doors do not engage.	Average
	Interior Specialties	There are general lockers in the corridor of the building and athletic lockers in the locker rooms. The general lockers were observed to be in good condition, and the locker room lockers were observed to be in average condition; the locker room lockers were observed to be dented and scratched.	Average
Stairs	Exterior Stairs	System not present.	N/A
	Interior Stairs	There are two open metal stairs leading to the fly space of the theater. There is an additional metal spiral staircase leading to the theater mezzanine. The stairs were observed to be in good condition except for the balusters of the spiral staircase; every other baluster is 8 inches apart. The lower steps of the stairs are cushioned with piles of carpet posing a tripping hazard.	Good

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Interior Finishes	Interior Wall Finishes	The interior walls of finished with painted drywall and fiber reinforced plastic panels. Acoustical panels are present in the music rooms. The gymnasium walls are finished with painted CMU, brick, and unpainted wood wool panels. The kitchen walls are finished with ceramic tile. Many of the walls are damaged at the corners. The acoustical panels were observed to be in excellent condition. The gymnasium walls were observed to be in good condition. The paint finish on the base of the columns was especially dirtied. Some painted drywall was observed to be crackling. The kitchen tile was observed to be in good condition.	Average
	Interior Floor Finishes	The interior floor finishes include finished with VCT. The theater audience floor is finished with carpet, and the stage is wood. The gymnasium floor is finished with varnished wood. The kitchen floor is finished with ceramic tile. The locker rooms are floored with ceramic tile. The flooring finishes were observed to be in poor condition due to use. Door swings were observed to be scratched into the VCT floor from dragged door stops. Some of the VCT was chipped or stained, especially near the wall base. Extensive cracking was observed in the VCT in the corridor. A ridge was observed to extend north to south for the length of the east side corridor. The majority of the VCT was also observed to be pimply. The rubber wall base was observed to have been removed from the backstage corridor and aged in many of the classrooms. The floor of the choir room risers were observed to be failing. Parts of the floor were observed to be sinking, much of the VCT was cracked and the edges were observed to be broken. The wood floor of the large gymnasium was observed to be in good condition, but the floor of the small gymnasium was observed to be pocked. The kitchen tile was observed to be in good condition. Broken VCT was observed in the locker rooms.	Average
	Interior Ceiling Finishes	The majority of ceilings in the building are finished with ACT. The theater and restrooms ceilings are painted drywall. The main gymnasium ceiling is painted wood wool panels. The kitchen ceiling is water resistant lay-in ceiling tiles. The locker rooms and restrooms ceilings are painted drywall. The ACT ceilings were observed to be in average	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		condition. Surface damage was observed. Water damage was also observed on some tiles. Possible mold or simply heavy dust was observed on the ceiling of the music rooms. The gymnasium ceiling was observed to be in good condition. Some water damage was observed in the cafeteria ceiling, but the kitchen ceiling was observed to be in good condition. The locker room ceilings were observed to be in good condition.	
Conveying	System not present.		N/A
Plumbing	Plumbing Fixtures	The building has a male and female public restrooms as well as separate private restrooms for faculty members. The urinals are wall-hung and the toilets are floor-mounted, vitreous china. The sinks are either stainless steel or vitreous china with manual faucets, and the toilets and urinals have manual flush valves. Service sinks are located in janitorial closets throughout the building. There were water pressure issues with the plumbing fixtures throughout the building. Many of the urinals did not flush properly. Many of the faucets did not have hot water at the time of the assessment. There was a faucet in the kitchen area that did not have hot water and was leaking. The kitchen faucets that did have hot water needed to be left running for a prolonged period before the water became warm. There was a urinal in one of the male public restrooms that did not flush properly, and one of the sinks did not have water flow. The restroom near FC-816 above the stage was under repair. The urinals in the male locker room did not flush properly. One of the faucets in the male locker room did not have hot water, while another did not have water flow. One of the faucets was also missing a valve. The showers in the male locker room did not have water flow. The water fountain outside of the male locker room was in bad condition and had low water pressure.	Poor
	Domestic Water Distribution	Domestic hot water in this building is serviced by the main mechanical room found in BLDG-013F	N/A
	Other Plumbing	There is a floor drain in the kitchen restroom that was in poor condition. The drain was damaged and not well maintained.	Poor
Mechanical/ HVAC	The major mechanical equipment for this building consists of interior draw-thru AHUs and FCUs. Much of the mechanical equipment in this building appears to be original.		Poor

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
	The AHUs and VFDs (variable frequency drives) were observed to be outdated or past their service dates. The AHUs located inside of the building were observed to be in poor condition. The distribution piping looked to be in good condition, but the AHUs themselves were corroded on the exterior and looked aged. The FCUs were also in poor condition. The FCUs above the stage in the theater and in the electrical equipment room inside the building were old and should eventually be replaced. There was supply air flex duct that was missing a diffuser in one of the rooms above the stage. There was also a return air grille that was falling out of the ceiling in the concessions area. There was a condenser unit outside of the kitchen that needs to be replaced.		
Fire Protection	Fire Alarm	The building has a fire alarm system that consists of alarm and signaling devices such as voice/annunciators, strobes, voice/strobe combinations, pull stations, and detectors. The fire alarm system is controlled by the campus's main fire alarm control system. The fire alarm system appeared to be in average condition, as some end devices were aged past their design service life.	Average
	Fire Protection/ Suppression	This building does not have a sprinkler system. Fire extinguishers are placed throughout the building for protection in the event of a fire. The equipment was observed to be in good condition, and the observed inspection tags were current.	Good
Electrical	Electrical Distribution	The electrical service enters the building at the 277/480-volt 600-amp distribution panel HDP2 located in the mechanical/electrical room that contains FCU-814. Distribution panel HDP2 is served from the main switchboard MSB located in the mechanical building. HDP2 feeds transformers and branch panelboards located in various electrical rooms throughout the building. The building does not have a lightning protection system. The electrical distribution equipment appeared to be in average condition. About 10% of the assets were observed with corrosion. Facility staff reported that the conduits in the crawlspace were EMT and were severely corroded. Because of this, it was reported that the integrity of the electrical grounding system had been compromised, as the conduit system was the grounding system for the facility.	Average
	Lighting	The lighting consists of 2x4 fluorescent fixtures. The building does not appear to have any emergency lighting. About 20% of the areas have occupancy	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		sensors, and the remaining areas have manual controls. The exterior lighting consists of HID (high intensity discharge) pole mounted light fixtures and building mounted “wall pack” fixtures. The theater lighting consists of HID downlights in the audience seating area. The stage theatrical lights appear to be from the original construction. There is an inverter system located on the upper level of the stage that appears to be from the original construction. It appears to be inactive, as the batteries are missing from the unit. The lighting in the gymnasium consists of fluorescent striplights with wire guards. The lighting for the building appeared to be in average condition. About 80% of the light fixtures appeared to be in good condition; however, 20% appeared to have signs of wear and tear and general deterioration. Observed deficiencies included broken lenses, inconsistent color temperatures, and non-functional fixtures. About 95% of the exit signs in the building appeared to be from the original construction and should be replaced soon.	
	Communications & Security	There is a Gemini security system including surveillance cameras in the building and on the exterior of the building. According to facility staff, more cameras and card readers are needed throughout the building. There is a public address system in the building, and it was observed to be in average condition. The facility staff reported that the public address system did not work in a few areas, was too loud, and had poor sound quality. The building is equipped with telecommunication systems. There are Wi-Fi points throughout the building.	Average

Exterior System Deficiency Examples

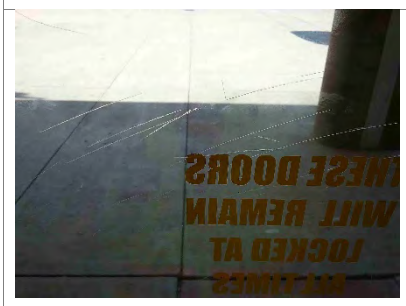
Exterior Walls



Exterior Windows

Exterior Doors



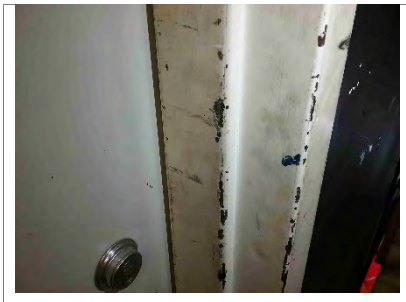
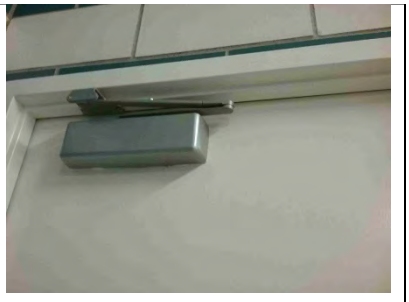


Interior Construction Deficiency Examples

Interior Walls



Interior Doors

Interior Specialties


Stairs Deficiency Examples

Interior Stairs


Interior Finish Deficiency Examples

Interior Wall Finishes



Interior Floor Finishes

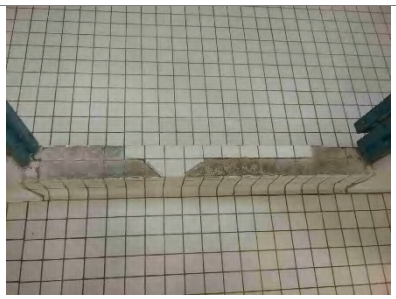












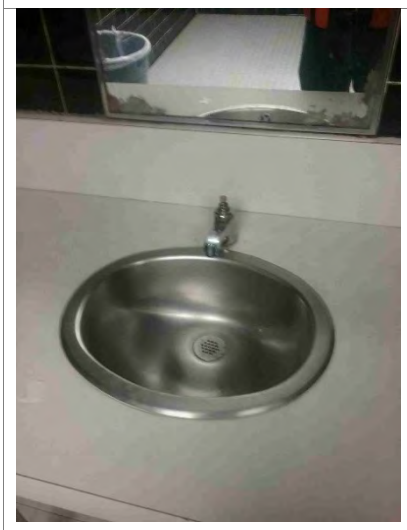
Interior Ceiling Finishes



Plumbing System Deficiency Examples

Plumbing Fixtures



Mechanical/HVAC System Deficiency Examples



Fire Protection

Fire Alarm

Electrical System Deficiency Examples

Lighting

Bowie High School Campus Summary of Recommendations

This document is based on current conditions observed during fieldwork and provides recommendations for corrective actions by each discipline. The following recommendations provide a summary of the findings.

Campus Recommendations

Exterior

1. Refinish all window frames with peeling paint.
2. Clean exterior of all windows and doors.
3. Refinish damaged and rusted metal doors and frames.
4. Replace rusted door frames.

Roofing

1. Further, investigate the roofs of all buildings that show signs of interior water damage.

Interior Construction

1. Paint scratched metal handrails.

Interior Finishes

1. Replace damaged and bowing ceiling tiles and tees. Monitor and repair roof leaks as needed on all buildings to prevent further damage.
2. Scrape peeling paint and repaint damaged finishes.
3. Refinish damaged metal doors and frames.
4. Install metal corner guards at all damaged drywall corners.
5. Replace all discolored, detached or damaged rubber wall base.
6. Replace broken VCT, and reinstall bubbling tile.

Plumbing

1. Continue preventive maintenance on aged plumbing fixtures and plan for replacement in the future, as fixtures continue to age.
2. Repair polyvinyl chloride chilled water lines and fiberglass hot water lines. It was reported that these lines are deteriorating.
3. Repair the floor drains that are leaking throughout the facility. It was reported that the floor drains leak.
4. Replace drinking fountains throughout the facility.
5. Replace toilets and urinals throughout the facility that are not functioning.
6. Refinish floor sinks per the interview notes.

Mechanical/HVAC

1. Address any rust or corrosion observed on the mechanical equipment by cleaning, repainting, or repairing to prevent further deterioration.
2. Repair or replace any damaged or missing piping insulation as needed.
3. Support HVAC ductwork properly. It was reported that the ductwork is being held in place with duct tape.

Fire Protection

1. Continue annual inspections of the portable fire extinguishers.
2. Continue annual assessments of the fire protection system.
3. Replace aged fire alarm devices at BLDG-013B, -013E, and -013G as required.

Electrical

1. Immediately provide missing break cover plates for all electrical equipment that were noted, as these instances should be considered life safety hazards.
2. Repair or replace all electrical equipment affected by corrosion or rust. If the corrosion/rust is beyond the enclosure, then replacement is suggested.
3. Remove any floor receptacles as they are being phased out of use district-wide.
4. Replace all outdated interior and exterior light fixtures with LED light fixtures with dimming capabilities.
5. Replace all exit signs with LED fixtures, and add more exit signs where required for all buildings.
6. Add more cameras where required for all buildings, particularly at building entry points, behind the portables, and along the south side toward the green belt. Additionally, provide card access points at these locations.
7. Provide LED egress lighting where required for all buildings.
8. Replace all distribution panels with new distribution panels. New distribution panels should have 25% spare capacity in the form of either spare breakers or provisional breaker space.
9. Replace all EMT crawlspace conduits with new GRS (galvanized rigid steel) conduits to retain the integrity of the grounding system.
10. Replace the conduit to the tennis courts as it is deteriorating and compromising the grounding.
11. Relocate the electrical panel for the irrigation system to a location inside the building so it is not exposed to the weather.
12. Provide a means to secure the electrical panel at the softball field.

Main School Building Recommendations

Interior Construction

1. Repair damaged walls and replace plastic corner guards with metal corner guards.

Interior Finishes

1. Remove stains from fiber reinforced plastic paneling (FRP).
2. Patch separating FRPs.
3. Replace mismatched VCT.
4. Refinish the single-person restroom drywall ceiling. Investigate cause of water damage.

Plumbing

1. Investigate and address water pressure issues so that plumbing fixtures are receiving sufficient water pressure.
2. Investigate and address the lack of hot water in the faculty restrooms.
3. Repair the urinal in the male faculty restroom so that it flushes properly.
4. Investigate the temperature setting on the water heater in the mechanical room. If the water is not reaching temperature, replace the water heater.

Mechanical/HVAC

1. Replace the old thermostats with new thermostats throughout the building.
2. Replace old AHUs and FCUs in the building.

Electrical

1. Verify the condition of telecommunication system/equipment in the administration building, as it was inaccessible.
2. Further, investigate and test the functionality of the public address system in the building. Replace the system if it does not function to meet building operation standards.

Stand-Alone Classroom Building Recommendations

Exterior

1. Refinish damaged exterior window shading system.
2. Apply insect treatment to exterior of building to deter further insect intrusion.
3. Repair exterior door threshold sealants.

Interior Construction

1. Replace, repair, or remove operable partitions between classrooms at district discretion.
2. Replace overhead shutters and tracks.
3. Refinish locker with moisture-resistant coating, and monitor interior condition of lockers for further rusting.
4. Repair spalling concrete observed on the interior stairs.

Interior Finishes

1. Refinish panels beneath restroom windows.
2. Further, investigate source of odor in science classrooms.
3. Repair VCT trim in female restroom.
4. Replace library carpet with new carpet tile.
5. Replace crawlspace access hatch in male restroom.
6. Further, investigate source of water damage in mechanical soffit of B-wing and repair soffit.

Plumbing

1. Investigate and address water pressure issues in wing-A so that plumbing fixtures are receiving sufficient water pressure.
2. Replace the acid dilution tank on the east side of the C wing per the interview notes.
3. Replace or repair the glass waste lines, faucets, and eyewash stations in the science classrooms per the interview notes. It was reported that these are clogged.
4. Investigate the temperature setting on the water heater. If the water is not reaching temperature, replace the water heater near AHU 610.

Mechanical/HVAC

1. Replace the vertical FCUs throughout the building.
2. Repair or replace sidewall grilles leading to the main corridors throughout the building.

Electrical

1. Repair the 2x4 light fixtures in room B104 that were observed with water accumulation. Provide new 2x4 light fixtures and all appurtenances as required.

Greenhouse Building C Recommendations

Exterior

1. Repair spalling observed on the exterior concrete. Further, investigate the structural integrity of concrete.
2. Replace all window panes with laminated glass or channeled acrylic at district's discretion.
3. Repair loose weather stripping.
4. Re-align the door so that it can shut.

Mechanical/HVAC

1. Repair the membrane on the fan tube jet.
2. Replace the unit heater with a new unit.

Fire Protection

1. Consider installing fire alarm devices/system at this building.

Greenhouse Building D Recommendations

Exterior

1. Remove organic growth from exterior walls.
2. Patch and grout broken concrete sills.
3. Repair broken louvers.
4. Replace filter paper set in louvers.
5. Repair loose weather stripping.
6. Install window frame in glazed door. Ensure glazing is laminated or channeled acrylic.

Mechanical/HVAC

1. Repair the membrane on the fan tube jet.
2. Replace the unit heater.

Vocational/Art/Shop Building Recommendations

Exterior

1. Remove water stains from exterior walls.
2. Repair weather stripping at overhead doors. Ensure doors are weather-tight.

Interior Construction

1. Repair damaged walls in the art room.
2. Replace dented door in G-wing.
3. Repair inoperable lockers.

Plumbing

1. Fix or adjust the faucets throughout the building so that they are secured in place.
2. Investigate and address water pressure issues in the building so that plumbing fixtures are receiving sufficient water pressure.

Mechanical/HVAC

1. Clean or replace the diffusers in the building.
2. Replace the AHUs in the mezzanine.

Electrical

1. Replace light fixtures in the dance room with new LED lensed and/or caged light fixtures.
2. Replace light fixtures in the weight room with new LED caged light fixtures.

Mechanical Building Recommendations

Exterior

1. Remove organic growth from exterior walls.
2. Repair bent metal framed
3. Refinish louvers.
4. Replace damaged insect screen.
5. Replace overhead door; repair and refinish overhead door if cost-prohibitive.

Plumbing

1. Repair or replace the Lochinvar boilers if they are not functioning.

Mechanical/HVAC

1. Conduct a study to determine if the existing chillers are undersized and need to be replaced.
2. Clean and remove the corrosion on the chilled water pumps.

Electrical

1. Replace the existing six-switch rule switchboard with a new main circuit breaker type switchboard to facilitate a single-point shut-off for electrical service to the campus. Provide a new switchboard with 25% spare capacity in the form of provisional breaker space for future additions.

Stand-Alone Cafeteria, Gymnasium, Theater Building Recommendations

Exterior

1. Refinish damaged plaster on exterior walls and soffits.
2. Remove stain from exterior brick wall.
3. Replace scratched glazing with laminated glass.
4. Replace dented doorframes.
5. Replace rusting gutters
6. Repair or replace metal overhang.

Roofing

1. Replace damaged paneling under the permanent canopies. Determine source of water damage and mitigate.

Interior Construction

1. Repair damaged walls in the music room and cafeteria.
1. Replace malfunctioning door closers.
2. Refinish locker room lockers, and replace dented instances.
3. Replace baluster system on the stair with those of tighter clearance.
4. Remove piled up carpet from stairs and install sound-absorbing surface on the treads.

Interior Finishes

1. Further, investigate possible settling of floor evidenced by VCT cracking.
1. Refinish VCT flooring to eliminate pimpling?
2. Replace choir riser system.
3. Perform repairs on flooring such as the wood floors in the small gymnasium.

Plumbing

1. Investigate and address water pressure issues in the building so that plumbing fixtures are receiving sufficient water pressure.
2. Address hot water issues throughout the building.
3. Repair the leaking faucet in the kitchen area.
4. Repair faucets and urinals in the male locker room.
5. Repair the roof drain above the band room per the interview notes.
6. Replace water heaters serving the gymnasium per the interview notes.

Mechanical/HVAC

1. Replace the aged AHUs throughout the building.
2. Replace the aged FCIs throughout the building.

3. Install a supply diffuser for the exposed flex duct in the theater room above the stage.
4. Repair the return air grille in the concessions area.
5. Replace the condenser unit outside of the kitchen.

Electrical

1. Replace light fixtures in all athletic areas with new LED light fixtures.
2. Replace all light fixtures in the crawlspace with new LED light fixtures.

Bowie High School Planned Future Improvements

The following are any known planned and funded improvements scheduled to take place at this campus in the future. Their scope and schedule are subject to change.

2013 Bond Planned Improvements from PE Rumman Zamir on 10/28/16.

- 160038 - Summer 2013.
  - Replacement of selected AHUs serving various classrooms and areas of school.
  - Replacement of hydronic piping primarily in the crawlspace of the school.
  - Replacement of selected hydronic pumps.

CRAWL SPACE – Bowie HS – Administrative Building (013-A)

Building Purpose	Administrative
Inspection Date	September 20, 2016, Afternoon
Inspection Conditions	95° - Sunny & Dry

Crawl Space System Deficiency Overview

NOTE ON CRAWLSPACE OBSERVATIONS: The majority of the building foundation is built on-grade. Limited areas of the building are suspended with crawl spaces.

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Soil, Drainage, Ventilation & Access	Soil Below Building, Site Drainage in Crawl Space	The soil below the building was generally damp, with the perimeter of the crawl space being the most damp. The soil in the crawl space sloped towards a drainage sump pit approximately 4 ft. deep. A pipe opening in the pit approximately 3 ft. above the bottom of the pit allows water to drain out. Soil/Drainage deficiencies: • Damp soils, water infiltration at perimeter	Average
	Soil Retainers	N/A – No soil retainers were exposed for observation in the crawl space. (It is not clear if soil retainers were used or if perimeter beams bear directly on grade.)	N/A
	Areaways/Ventilation	Ventilation in the crawl space is provided by two areaways. Mechanical fans were also present. Condensation on pipes indicated poor ventilation. Areaway/ventilation deficiencies: • Poor ventilation / Condensation on pipes	Average
	Access Hatches	Access to the crawl space is located on the south side of the building and provided by an access trench with a grate.	Good
Exposed Structure	Exposed Columns & Tops of Foundations	Observed exposed columns and tops of foundations were all in good condition. No deficiencies observed.	Good

	Exposed Faces of Perimeter Walls / Beams	Observed cast-in-place perimeter beams are approximately 3 ft. deep. It is not clear if perimeter beams bear on grade or are suspended. All observed perimeter beams appeared in good condition. No deficiencies observed.	Good
	Exposed Portions of Interior Floor Beams Above	Cast-in-place suspended interior beams spanned between columns and perimeter beams. Interior beams could only be observed where spray-on fireproofing had fallen. Observed beams appeared in good condition. No deficiencies observed.	Good
	Underside of Suspended Floor Slabs Above	The floor slab system consisted of cast-in-place pan joists supported by perimeter and interior beams. Most of the floor system was covered with spray-on fireproofing and could not be observed. Joists and slabs that could be observed appeared in good condition. No deficiencies observed.	Good
Pipes, Ducts, Equipment & Fireproofing	Suspended Pipes & Hangers	The crawl space contained many pipes. Observed deficiencies included rusted pipes and hangers. Pipe deficiencies: • Rusted pipes, pipe hangers & pipe supports • Missing and/or degraded pipe insulation	Average
	Exposed Ductwork	N/A – No exposed ductwork was present in the crawl space areas observed.	N/A
	MEP Equipment	Equipment deficiencies: • Open junction box	Average
	Spray Fireproofing/ Insulation	Spray-on fireproofing was present in the crawl space areas. Most of the floor system was covered except areas where spray-on fireproofing had fallen. Fireproofing/Insulation deficiencies: • Fallen/degraded spray-on fireproofing	Average

Crawl Space Deficiency Examples

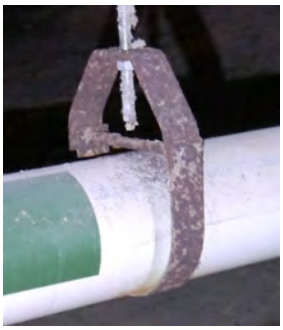
Soil, Drainage, Ventilation & Access

Damp soil at perimeter

Condensation on pipe

Pipes, Ducts, Equipment & Fireproofing

Rusted pipe & support



Rusted pipe hangers

Open junction box

Rusted pipe under joist

Fallen spray-on firesproofing

Missing/removed spray-on fireproofing

CRAWL SPACE – Bowie HS – Classroom Buildings (013-B)

Building Purpose	Classrooms
Inspection Date	September 20, 2016, Afternoon
Inspection Conditions	96° - Sunny & Dry

Crawl Space System Deficiency Overview

NOTE ON CRAWLSPACE OBSERVATIONS: The majority of the building foundation is built on-grade. Limited areas of the building are suspended with crawl spaces.

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Soil, Drainage, Ventilation & Access	Soil Below Building, Site Drainage in Crawl Space	The soil under the building was generally dry except soil around perimeter of building was damp. Floor drains are located at the center of all four wings in this building. The crawl space soil was sloped down away from the perimeter beams towards the walkway. Soil/Drainage deficiencies: • Damp soil • Water infiltration at perimeter	Average
	Soil Retainers	N/A – No soil retainers were exposed for observation in the crawl space. (It is not clear if soil retainers were used or if perimeter beams bear directly on grade.)	N/A
	Areaways/Ventilation	Ventilation in the crawl space is provided by areaways located at the ends of the wings and mechanical fans. Pipe condensation was observed indicating poor ventilation. Areaway/ventilation deficiencies: • Pipe condensation, poor ventilation	Average
	Access Hatches	Access to the crawl space is located at four different locations around the building. Each classroom wing contains an access trench on the north side of the wing. No deficiencies observed.	Good
Exposed Structure	Exposed Columns & Tops of Foundations	Exposed columns and tops of foundations appeared in good condition.	Good

	Exposed Faces of Perimeter Walls / Beams	Observed cast-in-place perimeter beams are approximately 3 ft. deep. No deficiencies observed.	Good
	Exposed Portions of Interior Floor Beams Above	All suspended interior beams spanned between columns. Interior beams were only observed where spray-on fireproofing had fallen and at the ends of the wings where spray-on fireproofing was not present. Observed beams were all in good condition. Beam deficiencies: • No deficiencies observed	Good
	Underside of Suspended Floor Slabs Above	The floor slab system consisted of cast-in-place pan joists supported by perimeter and interior beams. Most of the floor system was covered with spray-on fireproofing except at the ends of the wings. Mild honeycombing was observed on few pan joists. Slab deficiencies: • Mild honeycombing on joists • Metal element behind fireproofing (reinf?) is corroded and staining surrounding fireproofing • Metal pan form left in place and corroding	Average
Pipes, Ducts, Equipment & Fireproofing	Suspended Pipes & Hangers	The crawl space had many suspended pipes. Pipe deficiencies included rusted hangers and pipes. Larger pipe supports were also rusted. Few pipes had missing insulation. Pipe deficiencies: • Rusted pipes • Rusted pipe hangers & supports • Missing/degraded pipe insulation	Average
	Exposed Ductwork	N/A – No exposed ductwork was present in the crawl space area observed.	N/A
	MEP Equipment	Equipment deficiencies: • Corroded fan • Open junction box	Average
	Spray Fireproofing/ Insulation	Spray-on fireproofing is located throughout the crawl space on the floor system. Some areas throughout the crawl space had missing or degraded fireproofing. Fireproofing/Insulation deficiencies: • Missing/degraded spray-on fireproofing	Average

Crawl Space Deficiency Examples

Soil, Drainage, Ventilation & Access

Water infiltration at perimeter

Pipe condensation

Exposed Structure

Honeycombing at bottom of pan joist

Rusted metal concealed behind fireproofing

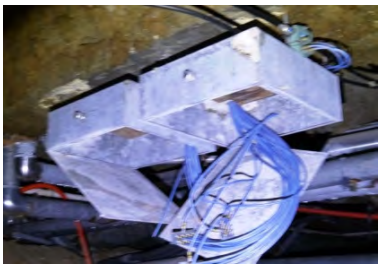
Metal pan form left in place and corroding

Pipes, Ducts, Equipment & Fireproofing

Rusted Pipe

Rusted pipe hanger

Rusted pipe support



Open junction box

Missing pipe insulation	Corroded mechanical equipment	
 Missing/degraded spray-on fireproofing		

CRAWL SPACE – Bowie HS – Vocational / Art / Shop Building (013-E)

Building Purpose	Vocational, art, and woodshop classrooms
Inspection Date	September 20, 2016, Afternoon
Inspection Conditions	96° - Sunny & Dry

Crawl Space System Deficiency Overview

NOTE ON CRAWLSPACE OBSERVATIONS: The majority of the building foundation is built on-grade. Limited areas of the building are suspended with crawl space. The crawl space under this building was congested with pipes and did not allow access past the entrance area.

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Soil, Drainage, Ventilation & Access	Soil Below Building, Site Drainage in Crawl Space	The soil below the building was dry. No drainage system was observed in the crawl space. Soil/Drainage deficiencies: • Damp soil around perimeter of building (water infiltration)	Average
	Soil Retainers	N/A – No soil retainers were exposed for observation in the crawl space. (It is not clear if soil retainers were used or if perimeter beams bear directly on grade.)	N/A
	Areaways/Ventilation	Areaway/ventilation deficiencies: • Ventilation likely inadequate	Average
	Access Hatches	The access trench was located on the south side of the building. No deficiencies noted.	Good
Exposed Structure	Exposed Columns & Tops of Foundations	N/A – No columns were present in the crawl space area observed.	N/A
	Exposed Faces of Perimeter Walls / Beams	Most of the perimeter beams were covered with spray-on fireproofing and could not be observed. Exposed perimeter grade beams were approximately 3 ft. deep. It is not clear if perimeter beams bear on grade or are suspended. All observed perimeter beams appeared in good condition. No deficiencies observed.	Good

	Exposed Portions of Interior Floor Beams Above	Suspended floor beams spanned between columns. Most of the perimeter beams were covered with spray-on fireproofing and could not be observed. Observed floor beams appeared in good condition.	Good
	Underside of Suspended Floor Slabs Above	The floor slab system consisted of a cast-in-place flat slab supported by perimeter and interior beams. Most of the floor slab was covered with spray-on fireproofing and could not be observed.	N/A
Pipes, Ducts, Equipment & Fireproofing	Suspended Pipes & Hangers	The crawl space was congested with pipes. Rusted pipes, pipe hangers, and pipe supports were all observed in the crawl space. Pipe deficiencies: • Rusted pipes • Rusted pipe hangers & supports	Average
	Exposed Ductwork	N/A – No exposed ductwork was present in the crawl space areas observed.	N/A
	MEP Equipment	N/A – No MEP equipment was present in the crawl space areas observed.	N/A
	Spray Fireproofing/ Insulation	Spray-on fireproofing is located throughout the crawl space. Fireproofing/Insulation deficiencies: • Degraded/fallen fireproofing	Average

Crawl Space Deficiency Examples

Soil, Drainage, Ventilation & Access

 Damp soil, water infiltration around perimeter of building		

Pipes, Ducts, Equipment & Fireproofing

 Rusted pipes	 Rusted pipe support	
 Degraded/missing spray-on spray-on fireproofing		

CRAWL SPACE – Bowie HS – Stand-Alone Cafeteria, Gym, Theater Building (013-G)

Building Purpose	Cafeteria, Gym, Theater
Inspection Date	September 20, 2016, Afternoon
Inspection Conditions	96° - Sunny & Dry

Crawl Space System Deficiency Overview

NOTE ON CRAWLSPACE OBSERVATIONS: The majority of the building foundation is built on-grade. Limited areas of the building are suspended with crawl spaces.

The following table provides a summary of the systems and their respective conditions found by each discipline.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Soil, Drainage, Ventilation & Access	Soil Below Building, Site Drainage in Crawl Space	The soil under the building was generally dry. The soil in the crawl space was sloped down away from the perimeter beams towards the walkway. Soil/Drainage deficiencies: • Damp soil around perimeter • Standing water below pipe leak	Average
	Soil Retainers	N/A – No soil retainers were exposed for observation in the crawl space. (It is not clear if soil retainers were used or if perimeter beams bear directly on grade.)	N/A
	Areaways/Ventilation	Ventilation in the crawl space was provided by areaways. Areaway/ventilation deficiencies: • Poor ventilation likely	Average
	Access Hatches	Access to the crawl space of this building is located in three different locations. Two access trenches are on the northwest side of the building. The other access trench is located on the southeast side of the building. The concrete around the access grate has mild honeycombing. There is a section of the slab that has exposed reinforcement. Access hatch deficiencies: • Exposed/corroded rebar around hatch opening • Slab honeycombing around hatch opening	Average

Exposed Structure	Exposed Columns & Tops of Foundations	All observed exposed columns and tops of foundations appeared in good condition.	Good
	Exposed Faces of Perimeter Walls / Beams	Suspended perimeter beams were approximately 3 ft. deep. Observed perimeter beams were in good condition. Perimeter wall/beam deficiencies: • Mild honeycombing	Good
	Exposed Portions of Interior Floor Beams Above	Suspended floor beams spanned between columns. Honeycombing at the bottom of the beams was observed in isolated locations. Beam deficiencies: • Mild honeycombing • Exposed/corroded reinforcement	Average
	Underside of Suspended Floor Slabs Above	The floor slab system consisted of cast-in-place pan joists supported by perimeter and interior beams. Most of the floor system was covered with spray-on fireproofing. Mild honeycombing was observed on few pan joists. Slab deficiencies: • Honeycombing on cast in place pan joists • Sever spalling & exposed/corroded reinforcement	Average
Pipes, Ducts, Equipment & Fireproofing	Suspended Pipes & Hangers	The crawl space had many pipes. Rusted pipes, hangers, and pipe supports were observed. A leaking pipe was found on the west side of the building crawl space. A corroded pipe transition at the slab pipe penetration was also observed on the west side of the building crawl space. Pipe deficiencies: • Leaking pipe • Rusted pipes & hangers	Average
	Exposed Ductwork	There was little ductwork in the crawl space. Observed ductwork had mild dents. Ductwork deficiencies: • Dented ductwork	Average
	MEP Equipment	Equipment deficiencies: • Rusted junction box	Average

	Spray Fireproofing/ Insulation	Spray-on fireproofing is located throughout the crawl space under the floor system. Wet spray-on fireproofing was observed near the east side of the crawl space. Fallen spray-on fireproofing was also found under this building. Fireproofing/Insulation deficiencies: • Wet fireproofing • Fallen fireproofing	Average

Crawl Space Deficiency Examples

Soil, Drainage, Ventilation & Access

Damp soil

Exposed/corroded reinforcement at access hatch

Slab honeycombing around access hatch

Exposed Structure

Spalling & corroded rebar in bottom of beam/joist

Honeycombing on exposed beam

Honeycombing on exposed joist

Pipes, Ducts, Equipment & Fireproofing

Leaking pipe

Rusted pipes & supports

Rusted pipe hanger

 Rusted pipe transition	 Dented ductwork	 Rusted junction box
	 Wet spray-on fireproofing	 Fallen spray-on fireproofing

Bowie HS – Campus Summary of Crawl Space Recommendations

This document is based on current conditions observed during fieldwork and provides recommendations for corrective actions by each discipline. The following recommendations provide a summary of the findings.

Building A - Administrative Building Recommendations

Soil, Drainage, Ventilation & Access

1. Improve ventilation
2. Investigate water infiltration at perimeter of crawl space; improve site drainage.

Pipes, Ducts, Equipment & Fireproofing

1. Clean and protect rusted cast iron pipes from further corrosion.
2. Replace heavily corroded hangers.
3. Replace missing/degraded spray-on fireproofing.

Building B - Classroom Building Recommendations

Soil, Drainage, Ventilation & Access

1. Improve ventilation
2. Investigate water infiltration at perimeter of crawl space; improve site drainage.

Pipes, Ducts, Equipment & Fireproofing

1. Clean and protect rusted cast iron pipes from further corrosion.
2. Replace heavily corroded hangers.
3. Replace missing/degraded pipe insulation.
4. Replace missing/degraded spray-on fireproofing.

Building E - Vocational / Art / Shop Building Recommendations

Soil, Drainage, Ventilation & Access

1. Improve ventilation
2. Investigate water infiltration at perimeter of crawl space; improve site drainage.

Pipes, Ducts, Equipment & Fireproofing

1. Clean and protect rusted cast iron pipes from further corrosion.
2. Replace heavily corroded hangers.
3. Replace missing/degraded pipe insulation.
4. Replace missing/degraded spray-on fireproofing.

Building G - Stand-Alone Cafeteria, Gym, Theater Building Recommendations

Soil, Drainage, Ventilation & Access

1. Improve ventilation
2. Investigate water infiltration at perimeter of crawl space; improve site drainage.

Exposed Structure

1. Repair badly spalled/cracked areas of the slab and joists.
2. Clean exposed slab reinforcement and protect from corrosion.

Pipes, Ducts, Equipment & Fireproofing

1. Repair leaking pipe.
2. Clean and protect rusted cast iron pipes from further corrosion.
3. Replace heavily corroded hangers.
4. Replace missing/degraded and wet spray-on fireproofing.

DRAFT

ACCESS TRENCH WITH GRATE

DEFICIENCIES FOUND AT THIS LOCATION:
1) STANDING WATER, POOR DRAINAGE
2) POOR VENTILATION, CONDENSATION ON PIPES
3) SEVERE SPALLING & REBAR CORROSION AT BOTTOM OF BEAM
4) HONEYCOMBING IN FLOOR JOISTS ~3/4" DEEP
5) RUSTED PIPES & IPIPE HANGERS
6) DEGRADED/MISSING SPRAY-ON FIREPROOFING

ACCESS TRENCH WITH GRATE

DEFICIENCIES FOUND AT THIS LOCATION:
1) DAMP SOIL AROUND PERIMETER
2) POOR VENTILATION, FAN NOT RUNNING
3) HONEYCOMBING & EXPOSED REBAR AROUND ACCESS HATCH
4) OPEN JUNCTION BOX
5) RUSTED PIPES & HANGERS
6) LEAKING PIPES
7) DEGRADED/ WET SPRAY-ON FIREPROOFING

F

G

ACCESS TRENCH WITH GRATE COULD NOT BE OPENED (MISSING HANDLE)

ACCESS TRENCH WITH GRATE

E

DEFICIENCIES FOUND AT THIS LOCATION:
1) RUSTED PIPE HANGERS
2) RUSTED PIPE SUPPORTS

A

DEFICIENCIES FOUND AT THIS LOCATION:
1) DAMP SOIL, WATER INFILTRATION AT PERIMETER
2) POOR VENTILATION, CONDENSATION ON PIPES
3) RUSTED PIPES & PIPE SUPPORTS
4) CORRODED ELECTRICAL CONDUIT
5) OPEN JUNCTION BOX
6) DEGRADED/DETACHED SPRAY-ON FIREPROOFING

D

ACCESS TRENCH WITH GRATE

ACCESS TRENCH WITH GRATE

ACCESS TRENCH WITH GRATE

DEFICIENCIES FOUND AT THIS LOCATION:
1) WET SOIL, WATER INFILTRATION AT PERIMETER
2) POOR VENTILATION, CONDENSATION ON PIPES
3) RUSTED PIPES & PIPE HANGERS/SUPPORTS
4) BROKEN/FAILED PIPE SUPPORTS
5) DEGRADED/MISSING PIPE INSULATION
6) OPEN JUNCTION BOX
7) DEGRADED/DETACHED SPRAY-ON FIREPROOFING

DEFICIENCIES FOUND AT THIS LOCATION:
1) DAMP SOIL, CONTINUOUS DRIPPING
2) POOR VENTILATION
3) MILD HONEYCOMBING ON EXPOSED CONCRETE
4) STEEL PAN FORMS LEFT IN PLACE AND CORRODED
5) CORRODED STEEL (REINF?) IN SLAB (STAINING FIREPROOFING)
6) OPEN JUNCTION BOX
7) RUSTED PIPES & PIPE HANGERS
8) MISSING/DEGRADED PIPE INSULATION
9) DEGRADED/MISSING SPRAY-ON FIREPROOFING

B

ACCESS TRENCH WITH GRATE

ACCESS TRENCH WITH GRATE

2009 Classroom Addition

C

NORTH

AUSTIN I.S.D.
DEPARTMENT OF CONSTRUCTION MANAGEMENT

BOWIE HIGH SCHOOL

4103 Slaughter Ln.
Austin, Texas

FLOOR PLAN
FIRST FLOOR

APPROVALS		
DRAWN	CHECKED	APPROVED
J.R.		
11/04/09		

DWG: 013-FLR-01	SHEET
DRAWING SCALE	
1" = 40'	1 OF 2

Bowie High School Site Summary

Site/Civil Assessment

Address	4103 W. Slaughter, Austin, TX 78749
Number of Permanent Campus Facilities	7
Original Year of Construction	1988
Total Campus Area	66 Acres
Data Collection Method	Desktop, Site Visit
Site Visit/Assessor	1/4/2017 / B. Faust

Introduction

The Bowie HS campus is located at 4103 W. Slaughter in Austin, Texas. Bowie HS was established in 1988 and consists of 7 buildings which include a building for administration, classrooms, two greenhouses, a building for art, computer, and a weight room, as well as a building for the cafeteria, gym and theater.

The site includes tennis courts, track and field, soccer/football field, baseball, and softball fields.

Development Information

Watershed	Slaughter Creek
Total Impervious Cover	32%
Allowable Impervious Cover	25%
Barton Spring Recharge Zone	Yes

Data from "AISD District Wide Impervious Cover Simplified 12-1-16" spreadsheet, Prepared by Fayez Kazi/Civilitude, on December 1, 2016.

Parking and Drives

Parking and Drives	Configuration	Size (SF)
Visitor Parking	33 CB	3,800
Staff Parking	Asphalt Concrete lots	13,000 10,500
Student Parking	P1 P2 Perimeter	233,000 34,000 14,300
Drop Off	Yes	8,000

HC – Accessible Parking, CB – Combined Parking

System Deficiency Overview

The following table provides a summary of the systems and their respective conditions found by each discipline. Refer to the AISD_FCA_Bowie_HS_Site_Civil_Exhibit for additional information.

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Site Improvements	Roadways	The main entrance drive is asphalt with concrete curb that has cracking on the portion up to the first curve in the driveway. The exit drive is much worse with the section right at the end of the drive having settling and cracking around where the sensor wire was installed and patched. The drive for drop off has various areas of alligator cracking along the drive in front of the school. Especially where the concrete gutter meets the asphalt pavement and along the longitudinal cracking down the center of the roadway. Most of the driveway around the perimeter of the school has a crack along the centerline, with some locations of block cracking. Roadway Deficiencies: · Alligator cracking in asphalt along gutter · Settling/depressed cracks at exit · Longitudinal and some block cracking along the center of the roadway (typical)	Main Entrance: Poor Drop-off: Poor Perimeter: Average Overall: Poor
	Parking Lots	There are two student lots, P1 is the large lot on the east side of the campus, and P2 is a smaller lot on the north side of campus near the tennis courts. P1 has a couple areas of more significant damage but overall had similar deficiencies. In general there is longitudinal cracking along the center of the	P1: Average P2:

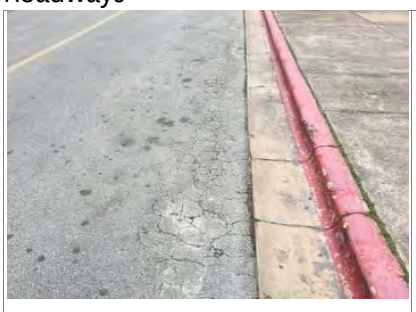
System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		driving lane through the parking lot as well as at the end of the parking spaces, running perpendicular to the parking space striping. There is also radial cracking in the pavement out from the tree wells. A manhole is located in this driving path of the lot with cracked concrete apron. P2 has similar longitudinal cracking along the drive as well as some block cracking and broken curb stops. The area near the gate entrance to this lot has some alligator cracking. There are a variety of areas for parking along the perimeter of the campus, with similar longitudinal cracking running along the back of the spaces. There are some asphalt staff parking lots in the north west corner of the school buildings. These lots are in average condition with minor cracking. A few lots are concrete and in good condition. On the south side of campus, there are two locations between buildings where there are cars parked on the grass/dirt area. The asphalt in one of those areas has a pothole needing repair. Parking Lot Deficiencies: · Radial cracking · Longitudinal cracking and alligator cracking · Grass/dirt being parked on, pothole · Broken curb stops · Cracked concrete around manhole	Average Perimeter Parking: Average Staff lots: Average Overall: Average
	Pedestrian Paving	The sidewalks around campus are concrete and generally in good condition. In the front of the large student parking, there is a low spot in the pedestrian area where the crosswalk connects to the main entrance from the parking lot. It is the slope to the crosswalk but the slope doesn't take the water away so standing water remains. There is also cracking in the concrete in this area near the tree well just across from the main walkway. Along the sidewalk/driveway on the south edge of the buildings there is concrete that has sunk at the inlet location. There are some sidewalks near the portables on the west side of the campus. A few spots along the sidewalk have grass/dirt that has eroded below the concrete of the sidewalk. Parking Lot Deficiencies: · Cracked concrete around tree well · Erosion along the sidewalks near portables · Sunk concrete around inlet	Good
	Site Development	There is chain link fencing along part of the perimeter of the property, mostly all in good condition. There is a location along the baseball field along the driveway curb that has damage to the top of the fence. The entrance gate to the lot near the tennis courts has a slanted post on the side near the tennis courts.	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		There are various locations of stone stacked walls; most of them are in good condition. There is a circular wall near the driveway on the northwest side of campus that needs repair. Site Development Deficiencies: · Minor chain link fence damage · Slanted gate post to tennis court lot · Stone retaining wall repair	
	Site Drainage	Overall, there are quite a few downspouts that connect to underdrains and many that flow onto pavement sloping away from the building. There are locations where there are gutters leaking and draining down the side of the building. Black marking can be seen in these locations. In general, the campus drains well, there are only a few locations where water is collecting and not draining properly that could use regrading. On the right side of the main entrance, there is a depressed grassy area with plants that collects water but is said to dissipate. Another location with stones shaped in a half circle collects standing water. Site Drainage Deficiencies: · Interior roof drains/gutters leaking and running down building · Low spots in grassy areas to regrade	Good
	Courtyards	There is a large main courtyard in the center of the buildings as well as some smaller areas between buildings. The large courtyard is in good overall condition. There are slight mounds and depressions in the brick pavers in some areas. Some of the concrete around the pillars have cracking and one pillar along the building has failing concrete. There is a stone wall missing some pieces in the south west corner of the courtyard. A smaller courtyard area on the south west side of the campus with large stones and a raised platform had very uneven ground and could use regrading. There are also a handful of pest holes along the side of the building in this area. Courtyard Deficiencies: · Brick pavers depressed and grass growth · Concrete slab cracking at base of pillars · Cracking concrete pillar · Stone wall pieces missing · Uneven ground and pest holes	Good
	Landscaping	There are some areas of worn grass around the school buildings. In a variety of places there are thorn bushes alongside the buildings or areas of overgrown vegetation. Landscaping Deficiencies:	Average

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
		· Worn/eroded grass area · Overgrown, thorny vegetation	
Site Utilities	Water Supply	Most of the water faucets observed on the sides of the buildings are dripping water. One location has left a significant size puddle. Water Supply Deficiencies: · Leaking water faucets	Poor
	Storm Sewer	There are inlets at the track and football field that are in good condition, but have erosion around the concrete apron (see football field) Storm Sewer Deficiencies: · Erosion around inlet	Average
	Detention Pond	There are several areas of detention that looked in good overall condition. There is some erosion under the concrete swale in the larger detention pond at the south end of the large student parking lot. In this same pond, there is water that collects outside of the pond and doesn't seem to drain properly. The detention pond located north of the large student lot near the main school entrance/exit has a pipe that looks like the dirt is eroded and doesn't flow properly into the detention. Detention Pond Deficiencies: · Erosion in detention · Water collects outside pond · Pipe clogged with dirt	Good
	Other Site Mechanical Utilities	There were two rainwater collection systems located, for the one on the west side, the overflow drains onto the ground. Another is located in one of the courtyards and the overflow goes back into the underdrain system. Other Utilities Deficiencies: · Overflow drains onto ground	Good

Site Improvement Deficiency Examples

Roadways



Cracking along gutter (front drop off)

Settling at exit

Block cracking (front entrance drive)

Parking Lots

		
Radial cracking (Lot 1)	Broken curb stops (Lot 2)	Cars parked on dirt/grass (dirt lot)

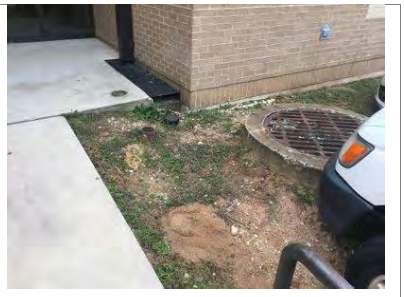
Pedestrian Paving

		
Cracked concrete near tree well	Low spot collects water	Erosion along sidewalk (near portables)

Site Development

		
Minor chain link damage (baseball field)	Gate post slanted (Lot 2)	Retaining wall

Site Drainage

		
Standing water-front right of main entrance	Gutter leaking	Erosion from downspout

Courtyards

		
Concrete slab cracking at base of pillars	Cracking pillar	Pest hole

Landscaping

	
Worn grass	Overgrown vegetation (main courtyard)

Water Supply


Leaking water faucet

Detention Pond

		
Eroded under concrete	Water collected	Erosion/not sloped enough

Site Utilities

	
Overflow drips onto ground	Overflow into underdrain

Play Fields

Areas presented in table are approximate.

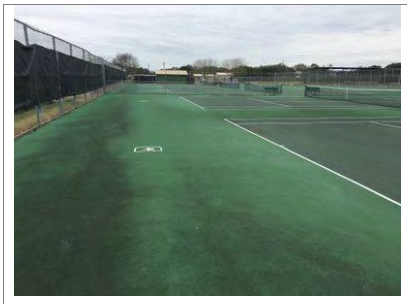
Playfields	Count	Size (SF)
Basketball Courts	n/a	-
Tennis Courts	8	52,000
Soccer/Multi-Purpose	1	74,000
Baseball Field	1	103,000
Bleacher Seating	Yes	-
Track	1	400 Meter
Green Space	n/a	
Football Field	1	97,600
Softball Field	1	38,300

System	Subsystem	Condition and Deficiency Overview	System Condition Rating
Playfields	Tennis Courts	There are 8 tennis courts are in overall great condition. No major cracking, just typical dirt on surface and a small area outside the playing surface that has deteriorated. The black tarp covering the fences is torn in some locations. There is a drinking fountain located on the south west side of the courts. Tennis Court Deficiencies: · Dirty court surface · Small deteriorated area · Broken tarp	Good
	Track	The track surface is in great condition. There is also a sink hole located in the grass on the east side of the track. Track Deficiencies: · Sink hole	Good
	Football/Soccer Fields	There is the football field within the track as well as a practice football/soccer field. Both in average condition with wear and tear. There are inlets along the field inside the track that have erosion around the concrete slab. Soccer/Football Field Deficiencies: · Worn grass · Erosion around inlets	Average
	Baseball Field	The baseball field is in good condition. There is a gate in the outfield of the baseball field that has slanted posts and the	Good

		gates are therefore crooked. Green Space Deficiencies: · Gate slants	
	Softball Field	The softball field is in good condition. There is a location on the south side of the field near the dugout that has a misplaced grate cover and the crushed granite is uneven. Playground Deficiencies: · Misplaced grate cover · Uneven crushed granite	Good

Playfield Deficiency Examples

Tennis Courts

		
Dirty court surface	Surface deterioration	Drinking fountain

Track and Field

	
Sink hole	Erosion around inlet concrete

Baseball Field

Gate slanted

Softball Field

Misplaced grate cover

Uneven crushed granite

Summary of Recommendations

This document is based on information provided by staff during interview, site visit and additional desktop measurements using Google Earth. This document provides recommendations for corrective actions. The following recommendations provide a summary of the findings.

Site/Civil Recommendations

Roadways

1. Removal of alligator cracking prior to overlay
2. Remove and repair patches at exit
3. Seal coat driveway around perimeter of the school

Parking Lots

1. Repair base and replace at radial cracking around tree wells
2. Sealcoat or thin overlay where longitudinal cracking
3. Fill pothole and possible pave areas of grass/dirt being parked on
4. Remove/replace broken curb stops
5. Repair cracked concrete at manhole

Pedestrian Paving

1. Replace cracked concrete around tree well.
2. Adjust grade at low spot.
3. Fill in along sidewalks near portables.

Site Development

1. Repair top of chain link near baseball field.
2. Adjust gate post at entrance to lot near tennis courts.
3. Fix stones at retaining walls.

Site Drainage

1. Regrade grass area in front of stones in half circle shape
2. Repair the leaking of the internal gutters.
3. Regrade where erosion from downspouts.

Courtyard

1. Raise/level brick pavers
2. Repair concrete slabs around pillars
3. Repair deteriorating concrete column

Landscape

1. Grade and replant grass where worn
2. Trim overgrown vegetation

Site Utilities, Water/Sanitary

1. Repair various leaking water faucets

Detention Pond

1. Fill under concrete swale where eroded

2. Add concrete swale or regrade slope from pipe near the school exit

Tennis Courts

1. Clean tennis court surface
2. Patch small deteriorated area to prevent further damage

Track and Field

1. Repair and assess further damage of sink hole
2. Repair erosion around inlet concrete slab

Baseball Field

1. Fix slanted gate posts and gate

Greenspace

1. Replace grate cover
2. Even and fill crushed granite walkway

DRAFT

0 25 50 100 150 200

Feet

Legend

- (1) Recommended Improvements
- Drainage Improvement
- Pavement Improvement
- Sidewalk Improvement

NOTES:

1. SETTLING/CRACKING PAVEMENT PATCH
2. ALLIGATOR CRACKING ALONG GUTTER
3. RADIAL CRACKING NEAR TREE WELL IN LOT 1 (TYPICAL)
4. CRACKED CONCRETE AROUND MANHOLE
5. BROKEN CURB STOPS
6. CARS PARKED ON GRASS/DIRT
7. POTHOLE
8. CRACKED CONCRETE AROUND TREE WELL
9. LOW SPOT IN CONCRETE
10. EROSION ALONG SIDEWALK
11. CONCRETE SUNK AROUND INLET
12. TOP OF FENCE DAMAGED
13. STONE RETAINING WALL DAMAGE
14. INTERIOR ROOF DRAINS, WATER DOWN SIDE OF BUILDING (VARIOUS LOCATIONS, ONE EXAMPLE SHOWN)
15. STANDING WATER
16. BRICK PAVERS DEPRESSED/GRASS GROWTH (VARIOUS LOCATIONS IN COURTYARD)
17. CONCRETE SLAB CRACKING AT PILLAR BASE
18. CONCRETE PILLAR CRACKED
19. UNEVEN GROUND
20. PESTHOLES (VARIOUS LOCATIONS)
21. ERODED GRASS AREA
22. OVERGROWN THORNY VEGETATION (VARIOUS LOCATIONS)
23. LEAKING WATER FAUCETS (TYPICAL AROUND THE BUILDINGS)
24. EROSION UNDER CONCRETE
25. WATER COLLECTS
26. EROSION AT PIPE
27. RAINWATER TANK WITH OVERFLOW ONTO GROUND
28. RAINWATER TANK WITH OVERFLOW INTO UNDERDRAIN
29. DETERIORATED AREA
30. BROKEN TARP
31. DRINKING FOUNTAIN
32. SINK HOLE
33. EROSION AROUND INLET
34. SLANTED GATE
35. MISPLACED GRATE COVER
36. UNEVEN CRUSHED GRANITE
37. DUMPSTERS
38. ASPHALT NEEDS REPAIR
39. CLOGGED DRAIN

Map Date: 2/21/2017

AUSTIN Independent School District

AECOM

Bowie HS
4103 W Slaughter Ln