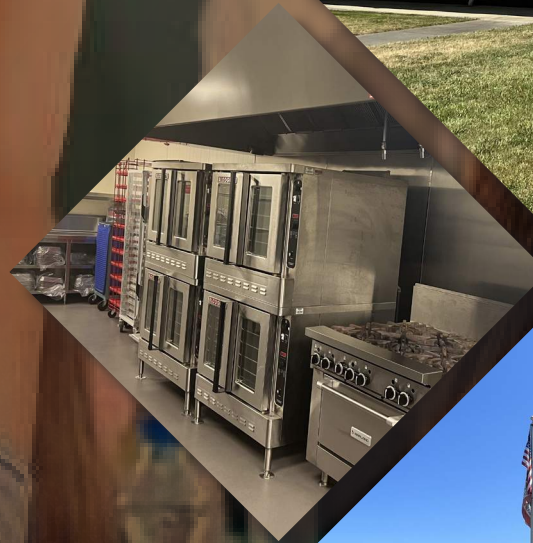


TRAVIS UNIFIED SCHOOL DISTRICT



District-wide Facility Condition Assessment FINAL REPORT



OCTOBER 4, 2023

PREPARED BY **KITCHELL**

LATEST ISSUE:
OCTOBER 4, 2023



CONTENTS

01	EXECUTIVE SUMMARY	
	Introduction	4
	Background	5
	Assessment Methodology	6
	Evaluation and Findings	8
	Facility Condition Index	8
	FCI and Impact to Component Failure Risk and Staff	9
	Priority Glossary	10
	Summary Matrix	11
02	APPENDIX	
	Appendix A - Cambridge Elementary School	A
	Appendix B - Center Elementary School	B
	Appendix C - District Office	C
	Appendix D - Foxboro Elementary School	D
	Appendix E - Golden West Middle School	E
	Appendix F - Scandia Elementary School	F
	Appendix G - Travis Education Center	G
	Appendix H - Travis Elementary School	H
	Appendix I - Vanden High School	I

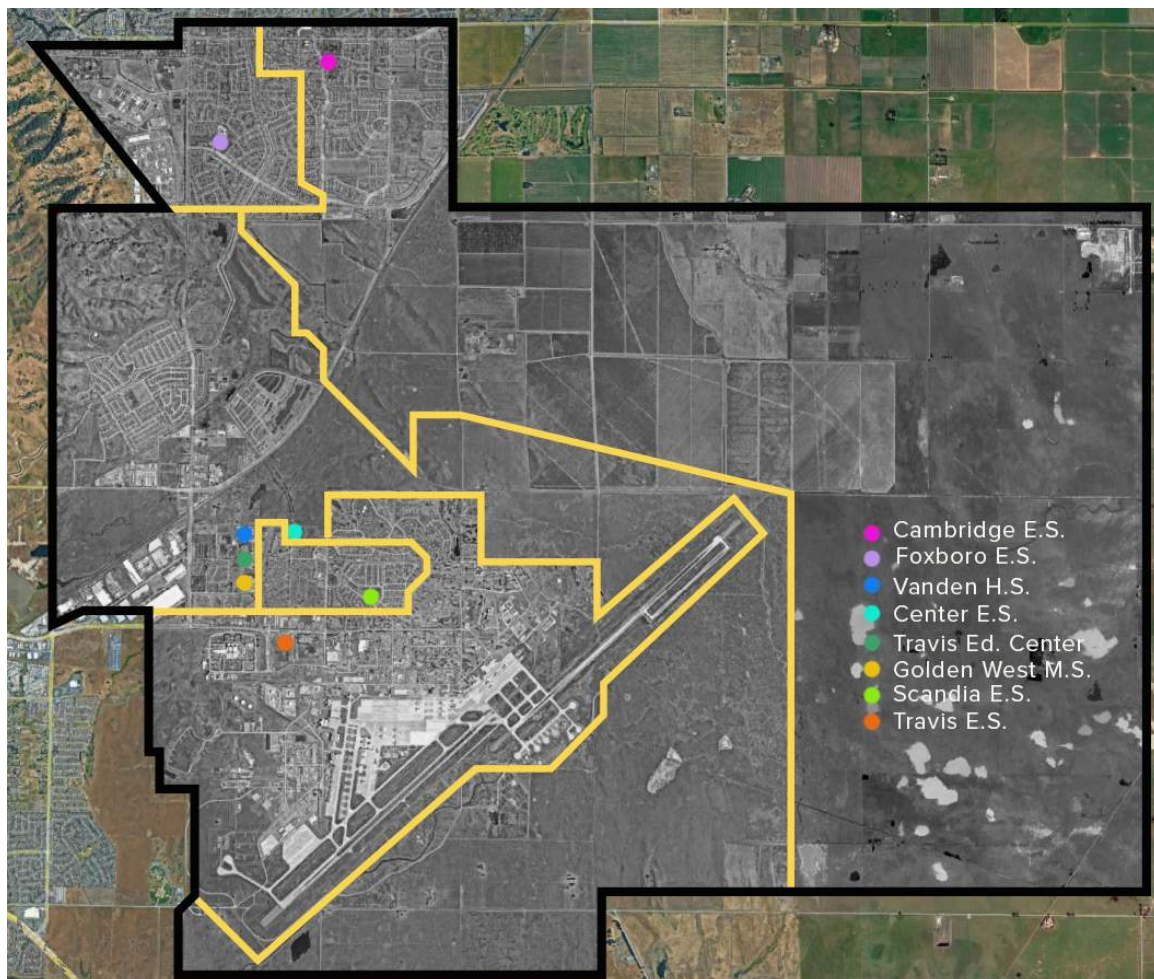
Executive Summary

Introduction

Travis Unified School District, situated in northern California, serves a diverse community encompassing Travis Air Force Base, sections of Vacaville and Fairfield, as well as parts of unincorporated Solano County. The District proudly educates approximately 5,400 students.

Within the District, there are five elementary schools, including two within the confines of Travis Air Force Base, one just outside the base in Fairfield, and two situated in the southern region of Vacaville. Complementing these, the District also offers a middle school, comprehensive high school, an alternative high school, and a community day school, all conveniently located adjacent to the District's administrative office.

With its founding in 1962, Travis Unified School District's origins lie in its commitment to providing accessible, high-quality education to the children of local community residents and Travis Air Force Base personnel. Over the years, the District has absorbed several smaller elementary school districts, evolving into an exemplar of K-12 educational excellence.



Background

In 2015, Travis Unified School District initiated a process to assess facility needs, allocate capital funds for projects, and find potential funding sources for their schools. They identified needs through visual inspections and discussions with experts, administrators, and custodial staff. They also involved Board members and school administrators to determine project priorities. The resulting Facilities Master Plan, adopted in October 2017, served as a blueprint. A Facilities Advisory Committee was then formed to provide further input and recommendations, which were incorporated into the updated Facilities Master Plan which was finalized in April of 2018. It is the District's intent to update the plan regularly, as the needs, priorities and funding options of the District change and evolve.

Immediate Needs of the District

In March 2023, District enlisted Kitchell CEM's services to assess critical needs across its school campuses. This decision was driven by limited anticipated facilities funding, with the aim of identifying high-priority requirements by assessing facility conditions and gathering input from the community.

The scope of services for this project encompassed facilities condition assessments for each site, evaluating eligibility for state funding, community engagement, and the development of a Limited Facilities Master Plan (LFMP) spanning the next five to ten years.

Due to the constrained scope of this initiative, certain aspects have not been addressed in this report. Specifically, this report does not include enrollment projections and demographic analysis, as the District had already engaged other consultants for these tasks. Additionally, education specifications, vision, and programmatic needs have not been covered in the

report due to expected funding limitations, although these considerations may become relevant in the future.

Limited Facilities Master Plan (LFMP)

In addressing the immediate needs of the District, a LFMP that identifies needs within a 10-year period was requested by the District. While the broader master plan outlines a comprehensive, long-term vision for educational facilities within a district, the focus of the LFMP is on immediate needs over a shorter five to 10-year period. In crafting such a strategic plan, stakeholders, including educators, administrators, and community members, collaborate to identify the most pressing facility needs, which may include critical repairs, technology upgrades, safety enhancements, or the renovation or expansion of existing buildings to maintain a safe and optimal learning environment.

Concentrating on shorter term needs through the LFMP not only sets a benchmark for further planning down the road, but it also ensures the school's infrastructure can operate safely and effectively in the near term. By collaboratively identifying, prioritizing, and implementing specific projects within a set timeframe and budget, the LFMP allows the District to respond swiftly to evolving educational demands. It serves as a critical foundation, ensuring that students learn in safe, conducive environments that align with their educational goals. This, in turn, establishes a strong footing for both the present and future long-term planning efforts outlined in the broader Facilities Master Plan, creating a seamless and sustainable approach to educational facility management.

Assessment Methodology

Approach

Throughout the master planning process, Kitchell acquired critical data that served as the cornerstone for its analytical framework and ultimately shaped the recommendations presented in this report. The primary source of this essential information stemmed from the Facility Condition Assessment (FCA). Within this comprehensive assessment, a cataloging of building and system deficiencies was undertaken, pinpointing areas necessitating repair or replacement within a 10-year timeframe. These deficiencies were categorized with priorities according to their criticality, utilizing a scale ranging from 1 to 6. A rating of 1 denotes immediate needs demanding attention within the forthcoming year, while a rating of 6 designates deficiencies requiring remediation within a more extended six to 10-year horizon.

The methodology used in this assessment included a visual non-destructive inspection of the facilities using ASTM standards (ASTM E2018-15) and industry best-practices checklists; interviews with maintenance personnel; analysis based on the available documentation (original and as-built drawings, precedent studies, reports, and documents); and input from initial maintenance pre-assessment questionnaires. Observed physical deficiencies at each facility were assigned a budget-level construction correction estimate. Confirmation of compliance with local, state, and federal codes and with the Americans with Disabilities Act (CASp) was not a part of the assessment.

Secondly, Kitchell, in collaboration with school district staff, actively engaged with the Travis USD community through a series of public forums. These forums provided a platform for open dialogue, allowing the team to listen to community members and elicit their feedback with areas of concern and their perceived priorities requiring the District's attention. In addition to these in-person interactions, Kitchell executed a multifaceted outreach strategy, which encompassed

the use of online surveys. These surveys encompassed a range of questions, covering aspects related to campus conditions, safety measures, and operational requirements.

Through the application of these two complementary approaches, Kitchell was able to integrate both the identified physical critical needs of the campuses and the enhancements that the public identified as top priorities. This comprehensive approach ensured that the resulting master plan encapsulates the immediate requirements of the educational facilities while aligning with the broader community's aspirations and preferences.

Community Outreach

Between May 11th and June 1st, the Kitchell Team along with District staff and faculty conducted seven community engagement sessions on the school campuses. These sessions aimed to inform the community about the plan's scope and purpose and receive feedback from the community regarding their priorities and concerns for the District. Each meeting included sharing information with the public, as well as obtaining feedback from community members, students and faculty.

During these meetings, community members expressed their desire to address key issues, such as safety, deferred maintenance, thermal comfort, and accessibility. Some individuals expressed concerns that the plan might become politically influenced and that funds might not be allocated fairly. Additionally, community members stressed the importance of equitable investment throughout the District, particularly in schools with the greatest needs. The questions and concerns raised during these meetings were considered and integrated into this report.

Online Surveys

In May 2023, a comprehensive 21-question survey was launched within the Travis USD community to gain essential insights into community priorities and facility needs. This initiative aimed to provide valuable input to the team. The survey was widely disseminated through diverse channels, including distribution of flyers, in-person community outreach meetings, and via email communications.

During the survey period, which spanned from May 11th to July 5th, a total of 322 online submissions were received from respondents. The survey covered a range of topics, including the overall condition of buildings, playground safety, lighting, heating and cooling systems, accessibility, and technology infrastructure. These surveys effectively captured and represented the perspectives and priorities of the Travis community.

Elements that were observed and assessed include those in the following broad categories.

Site Elements

Visual examinations of the parking lot and grounds, and evaluation of the site with respect to flood potential were conducted. The systems included grading, drainage, slope stabilization, protection and erosion control. For grading and drainage, Kitchell observed the site systems for removal of storm water and identified any that appeared under-capacity or distressed. The parking lots were observed for pavement, striping, curbs, gutters and sidewalk damage, and obvious access barriers. Landscaping, retaining walls, perimeter fences, gates, recreational facilities, playing fields, and playgrounds were also inspected.

Architectural Elements

Visual examinations of roof materials, flashings, penetrations, skylights and other roof appurtenances were conducted. Exterior walls, windows and doors were examined for irregularities, structural damage, and wear. Interior finishes were observed for deficiencies and wear.

Structural Assessment

The scope of the structural assessment was limited to the visual observation and notation of apparent structural deficiencies to identify items in need of repair or retrofit and did not include calculations or analysis.

Mechanical, Electrical, Plumbing, Fire Sprinkler Risers & Fire Alarm Systems

Visual examinations of mechanical, electrical, plumbing, fire sprinklers and fire alarm systems to determine capacities, condition and remaining useful life were conducted. Electrical systems reviewed include power distribution, emergency power, lighting systems and fire alarm. Mechanical systems reviewed include HVAC, plumbing fixtures, visible waste and vent lines, pumps and motors, and fire sprinkler systems.

Life Safety Hazards

During the course of the site walk-through surveys, Kitchell immediately notified the District of any fire and life safety hazards observed at the facilities.

Evaluation and Findings

The assessment prioritized observed physical deficiencies and recommendations into six categories. These priorities are a recommendation on when the deficient condition should be addressed. This is based on the best judgment that was made at the time of inspection and only on the condition of the system or building component. The prioritization categories are defined in the Priority Glossary included at the end of this section.

Facility Condition Index

The Facility Condition Index (FCI) is an industry standard asset management tool which measures the “constructed asset’s condition at a specific point in time” (US Federal Real Property Council, 2008). It is a functional indicator resulting from an analysis of operational indicators to obtain an overview of a facility’s condition as a numerical value.

The **Capital Renewal Cost** is the sum of the current capital improvement costs for an assessed facility. This cost is compared to the current replacement cost for the purpose of calculating an FCI, therefore, escalation is not considered.

The **Total Capital Renewal Cost** is the sum of all Capital Renewal Costs including escalation.

The **Replacement Cost** is the current replacement cost of the facility. The Replacement Cost is based on Kitchell’s experience designing and constructing similar facilities and includes the following: estimating contingency, general conditions, overhead/profit, insurance, bonds, construction contingency, architect/engineer fees, construction management, permit, District administration, etc.

The **Campus-wide Enhancement Cost** is the project cost estimate that is based upon a general, conceptual scope of work and does not reflect a detailed design, assessment, nor investigation. A detailed scope of work has not been prepared as part of estimating the cost.

The FCI number is obtained by adding all the Capital Renewal Costs of any needed or outstanding repair, renewal or upgrade requirement at a facility and dividing by the current Replacement Cost of the facility. The FCI describes the relative physical condition of the current facility versus a new facility using identical program, construction type, and building systems. In addition, cost estimates take into consideration compliance with current building code requirements.

District administration soft costs and fees for architecture/engineering, construction management, permits, and testing were accounted for using a 30% cost increase factor applied to the deficiency costs. This factor appears as a “Non Construction Cost” within the individual facility deficiency tables. The General Construction Factor and City Cost Index (CCI) are additional factors included to adjust for the geographic location of the District.

Condition Index Grade

The Condition Index Grade Chart relates the FCI score to a grade level and to the potential impacts of the deficiencies. The narrative provides current industry standard subjective benchmarks indicating condition ratings for facilities with various FCI ranges. A letter grade, “A”, “B”, “C” or “D”, has been added as a benchmark associating the facility’s condition with its respective FCI range.

Facility Condition Index and Impact to Component Failure Risk and Staff

Common Implications of FCI to Asset Portfolios				
FCI Grade	Impact to Facilities and Components	Examples of Component Issues	User Complaints and Morale	Maintenance Personnel Impact
Grade A Good (FCI 0 to 0.04)	Facilities will look clean and functional. Limited and manageable component and equipment failure may occur.	Repairs and replacement are more of an aesthetic or general nature, such as wall painting, carpet replacement, roof repair, window caulking.	User complaints will be low and manageable. User morale will be positive and evident.	Facilities personnel time will be devoted to regular scheduled maintenance.
Grade B Fair (FCI 0.05 to 0.10)	Facilities will begin to show signs of wear. More frequent component and equipment failure will occur.	Repairs and replacement of specific systems, such as boiler, window replacements, and interior renovations.	User complaints will occur with higher level of frequency. User morale may be affected.	Facilities personnel time may at times be diverted from regular scheduled maintenance.
Grade C Poor (FCI 0.11 to 0.30)	Facilities will look worn with apparent and increasing deterioration. Frequent component and equipment failure may occur. Occasional building shut down will occur.	Replacement of specific major systems are required, such as heating and plumbing systems, complete interior renovations, building envelope restoration. Shut down may affect users (i.e. roof or pipe leakage).	User complaints will be high with increased level of frequency. Concern about negative user morale will be raised and become evident.	Facilities personnel time will likely be diverted from regular scheduled maintenance and forced to "reactive" mode.
Grade D Critical (FCI over 0.31)	Facilities will look worn with obvious deterioration. Equipment failure will occur frequently. Occasional building shut down will likely occur. Management risk is high. Health and safety issues figure prominently.	Replacement of multiple systems required (i.e. mechanical, electrical, architectural and structural). Building heating system failure. Evacuation due to unaddressed roof leakage. Structural issues including envelope replacement.	User complaints will be very high with an unmanageable level of frequency. Lack of maintenance will affect user attitudes and morale.	Facilities personnel will not be able to provide regular scheduled maintenance due to high levels of "reactive" calls.

Priority Glossary

Priority	Description	Explanation
1	Immediate	Conditions in this category require immediate action to: a) correct a cited safety hazard, b) stop accelerated deterioration, and/or c) return a facility to operation. Deficiencies in this category should be addressed in 0-12 months. The Escalation Factor in this category is 8%.
2	Crucial	Conditions in this category, if not corrected expeditiously, will become critical within a year. Situations within this category include: a) intermittent operations, b) rapid deterioration, and c) potential life safety hazards. Deficiencies in this category should be addressed in Year 1-2. The Escalation Factor in this category is 13%.
3	Impending	Conditions in this category require appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further. Deficiencies in this category should be addressed in Year 2-3. The Escalation Factor in this category is 18%.
4	Necessary	Conditions in this category include items that represent a sensible improvement to existing conditions. These are not required for the most basic function of the facility. Deficiencies in this category should be addressed in Year 3-4. The Escalation Factor in this category is 23%.
5	Potential	Conditions in this category include items that present a potential need in the near future. Deficiencies in this category should be addressed after Year 4-5. The Escalation Factor in this category is 28%.
6	Planned - Long Term	Conditions in this category include items that present a potential need in the long term. Deficiencies in this category should be addressed in Years 6-10. The Escalation Factor in this category is 33%.
7	Informational	Conditions in this category are discretionary and for informational purposes. Deficiencies in this category may also include items or systems which have exceeded their expected industry standard useful life; however, due to proper maintenance, they remain in good operational condition and should continue to function as required well beyond their useful service life.

Summary Matrix

The summary matrix below shows the combined costs for all schools by category for both capital improvement needs and campus enhancements. Costs are further broken down on a per school basis within each school assessment following the executive summary.

SITE	FCI	SCORE	ESTIMATES	
Cambridge Elementary	0.137	C	Capital Renewal Cost	\$ 6,308,466
			Enhancement Cost	\$ 5,056,395
			Playground Upgrade Cost	\$ 404,345
			TOTAL	\$ 11,769,206
Center Elementary	0.145	C	Capital Renewal Cost	\$ 10,234,848
			Enhancement Cost	\$ 5,118,000
			Playground Upgrade Cost	\$ 442,607
			TOTAL	\$ 15,352,848
District Office	0.153	C	Capital Renewal Cost	\$ 3,775,970
			Enhancement Cost	\$ 1,649,000
			TOTAL	\$ 5,424,970
Foxboro Elementary	0.144	C	Capital Renewal Cost	\$ 7,878,184
			Enhancement Cost	\$ 1,109,000
			Playground Upgrade Cost	\$ 335,523
			TOTAL	\$ 8,987,184
Golden West Middle	0.120	C	Capital Renewal Cost	\$ 12,574,951
			Enhancement Cost	\$ 6,665,000
			TOTAL	\$ 19,239,951
Scandia Elementary	0.041	B	Capital Renewal Cost	\$ 2,824,401
			Enhancement Cost	\$ 310,000
			Playground Upgrade Cost	\$ 227,925
			TOTAL	\$ 3,134,401
Travis Education Center	0.127	C	Capital Renewal Cost	\$ 1,948,565
			Enhancement Cost	N/A
			TOTAL	\$ 1,948,565
Travis Elementary	0.126	C	Capital Renewal Cost	\$ 10,186,217
			Enhancement Cost	\$ 5,923,000
			Playground Upgrade Cost	\$ 131,781
			TOTAL	\$ 16,109,217
Vanden High	0.143	C	Capital Renewal Cost	\$ 28,658,129
			Enhancement Cost	\$ 58,522,056
			TOTAL	\$ 87,180,185
			Total Capital Renewal Cost	\$ 84,389,731
			Total Enhancement Cost	\$ 84,352,451
			Total Playground Upgrade Cost	\$ 1,542,181
			GRAND TOTAL	\$ 170,284,363

This page intentionally left blank.

Cambridge Elementary School Detailed Report

Address: 100 Cambridge Drive, Vacaville, CA 95687

Statistics

Year Built: 1983 - 2007
Total Building Area: 42,407 SF

FCA Summary

Overall Campus

Capital Renewal Cost: \$6,308,466
FCI: 0.137
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$46,040,000



This page intentionally left blank.

Narratives

Architectural Systems

Cambridge Elementary School is one of five elementary schools in Travis Unified School District and serves grades kindergarten through sixth. The school, located at 100 Cambridge Drive in Vacaville, California, consists of two permanent structures ("Wing A" and "Wing B"), 12 portable classrooms, and a portable staff restroom. There are eight "Wing C" portable classroom buildings and four "Wing D" portable classroom buildings. At the time of the site walk, regrading was occurring south of Wing D in preparation for future classroom buildings. The site also contains two playgrounds, blacktop courts, and a parking lot with photovoltaic shade structures. Overall, the campus is in poor condition and upgrades and/or replacements of major systems are recommended throughout the buildings.

WING A

Wing A is a single-story, 24,000-square-foot, wood-frame building that was constructed in 1983. The interior spaces consist of classrooms, administrative offices, library, multi-purpose room, kitchen, and restrooms.

Overall, the exterior of Wing A is in need of refurbishment. At the time of the assessment, portions of the exterior siding and stucco were under repair. The exterior finishes vary from cementitious plaster walls, plywood siding, wood trim, asphalt shingle roofing, and modified-bitumen roofing. The exterior plaster wall finish generally appears to be in fair condition; however, areas of cracking were observed above portions of the shingle roof. The wood trim, which runs along the base of the plywood siding, appears to need refinishing. Along the roof parapet, the wood fascia shows signs of dry rot, and some portions were even observed to be detaching from the plaster wall. The building contains five modified-bitumen roofs which are located above the classroom wing, library, administrative office, multi-purpose room, and kitchen. The roofs, which were installed around 2008-2010, show signs of ponding and bubbling and are approaching the end of their expected useful life.

The interior finishes consist of vinyl composition tile, sheet vinyl, carpet flooring, ceramic tiles, painted gypsum board wall and ceiling, and vinyl wall coverings. The vinyl composition tile finishes in the hallways show signs of separation and damage. The wood doors throughout the interior of the building are scuffed and are recommended for refinishing. The carpet flooring in classrooms and offices shows

Architectural Systems

signs of wear. Large portions of the glue-on ceiling tiles in the workroom and classrooms indicate water damage from roof leaks. Vinyl wall coverings are generally in fair condition, but areas of damage were observed in several classrooms. The front office reception counter is at an inaccessible height (greater than 34 inches allowed by code). Additionally, many doors appeared to lack accessible hardware. Overall, the interior finishes are in fair to poor condition with many areas recommended for improvement.

WING B

Wing B is a 6,000-square-foot, wood-framed building on pier and beam foundation that was originally constructed in 1983. Additions included two multi-occupant restrooms and a central workspace in 1986. The original building consisted of five classrooms, but the 1986 addition added a central workspace and restrooms.

The exterior finishes consist of cementitious plaster walls, curtain walls, plywood siding, wood trim, asphalt shingle roofing, and modified-bitumen roofing. The roof is beyond its expected useful life and is recommended for replacement due to ongoing leaks.

The interior finishes consist of vinyl composition tile flooring, carpet flooring, glue-on ceiling tiles, vinyl wall coverings, painted gypsum board wall and ceiling, and porcelain tile flooring. In the classrooms, the carpet shows signs of wear and is recommended for replacement within the next five years. Several areas throughout the classrooms contain glue-on ceiling tiles that appear to be uneven and show signs of water damage. Staff have reported ceiling tiles to have fallen through some of the classrooms, in addition to rodent droppings. It is recommended the entire ceiling surface be replaced concurrently with the roof replacement.

In several classrooms, it was observed that the wall-mounted backpack hooks were at eye-level for students, which may pose a potential safety hazard. It is recommended the backpack hooks be removed and relocated in a safer location.

PORTABLE CLASSROOMS

The portable classroom buildings are 960 square feet each and were installed between 1983 and 2007. There are a total of 12 portable classrooms (Wing C and Wing D) located on the site, in addition to a smaller staff restroom portable building.

The exterior finishes of the portable classroom buildings generally consist of T1-11 siding, wood trim, and metal roofing, with exception of Portable Classrooms D1-D4, which have modified-bitumen roofs. The exterior finishes are generally in fair condition, with a few exceptions. The aluminum sunshades installed at the windows of each portable classroom vary in condition; however, they are generally

Architectural Systems

difficult to operate, and some are missing louvers. Several of the ramps leading to the entrance doors show signs of wear and deterioration. The roofs appear to be in fair condition with no leaks observed nor reported by staff; however, recoating is recommended to protect the surface of the roofs.

Inside the portable classrooms, finishes include vinyl wall coverings, carpet flooring, and suspended ceiling tiles. The interior finishes were generally in poor condition, with worn carpet flooring, delaminating vinyl wall coverings, and sagging suspended acoustical ceiling tile grids observed in most classrooms. Full replacement of the ceiling finishes, carpet flooring, and portions of the vinyl wall coverings is recommended within a 10-year period.

SITE

The elementary school site is comprised of numerous areas: a front parking lot, rear parking lot, two playgrounds, concrete walkways, asphalt-concrete (AC) paving, and blacktop courts. The surfaces throughout the site vary from AC paving and concrete walkways to landscaping and rubber playground flooring.

The front parking lot, located at the northwest portion of the site, provides access to the main entrance. Two photovoltaic shade structures are located at the center of the parking lot. The AC paving surfaces in the front parking lot appear to indicate wear and are recommended for resurfacing and restriping within the next five years. The AC paving in the rear parking lot, located on the southwest side of the campus, is showing signs of severe weathering and deterioration, and should be replaced within the next five years.

The AC paving located near Wing C shows signs of cracking and deterioration in several areas as well. Staff members have reported flooding to occur near these portables during rain events, which has caused noticeable damage to the AC paving and dry rot in the wood paneling under the classroom entry ramps. Replacement of the AC paving is recommended near Wings C and D within the next five years.

The AC blacktop courts and play areas, located at the northeast side of the campus, are showing signs of age and cracking throughout, especially along the edges of the play areas. Resurfacing of the AC paving is recommended within the next five years.

The campus turf areas appear to be in generally satisfactory condition with no major bare nor dead areas noted; however, areas of poor drainage were observed near the upper-grade playground (northeast corner of the site). The walkways show signs of weathering and minor cracking throughout the site. Some areas, including the walkway south of Wing B, indicate severe cracking and should be replaced. Generally, the concrete walkways appear to be in good to satisfactory condition with certain areas needing immediate remediation.

Mechanical Systems

The mechanical systems consist of wall-mounted heat pumps serving portable classrooms in Wings C, rooftop-mounted air conditioning units on Wing D, multi-zone air handlers serving the staff spaces, multi-purpose room and Wing A, rooftop exhaust fans serving the staff and Wing A, and ceiling exhaust fan serving the restroom spaces. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus include primarily Delta Controls with Carrier Controls supporting zones of Wing A.

The community outreach discussion identified concerns with the HVAC in Wing A and B. Building maintenance engineering staff have confirmed issues during the school year at Wing B but have resolved those issues during the school year. The HVAC systems in Wing B are the newest 2017 installation with no issues evident during the time of inspection. There were concerns identified by the staff regarding debris evident on the ceiling tiles surrounding the air diffusers. The dust and debris originate from within the room with the build-up occurring due to the static friction of the air and the air diffuser and is not a significant issue with the HVAC system. The multi-zone units serving Wing A also had no issues evident during the time of inspection.

A lack of HVAC control was also identified during the community outreach discussion. Classroom wings B, C, and D have individual units per classroom. Only Wing A shares a single multi-zone air handling unit, but each classroom space has its own individual classroom control. Further discussion is required to understand the community concern regarding HVAC control within the campus.

Due to the age of the majority of HVAC units on the campus, most equipment is considered energy inefficient by today's standards. Furthermore, they operate on an EPA-phased-out refrigerant (R22) and the manufacturer is in the process of discontinuing support. If the equipment requires any maintenance or charging of the refrigerant, significant costs to maintain the system will likely occur.

Overall, the mechanical system appears to be in operational condition, but the HVAC equipment is nearing the end of its expected useful life. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Electrical Systems

POWER

The main switchboard is located on the exterior of the multipurpose room/kitchen building within a fenced yard. It is supplied by an underground electrical service from PG&E. This switchboard is rated for 1000A at 480Y/277V, 3 phase, 4 wire. The main switchboard consists of a PG&E meter, a 1000A main circuit breaker, and a distribution switchboard. The switchboard, which is original to the 1983 construction, supplies feeders to the remote panelboards in Wing A, Wing B, multipurpose room/kitchen, and the portables. At an age of 40 years, the switchboard is beyond its expected useful life and is recommended for replacement.

The permanent buildings of Wing A, Wing B, Administration, and the multipurpose room were constructed in the early 1980s. The electrical power distribution equipment is original to the buildings. The panelboards are typically recessed, obsolete GTE Sylvania type. There were signs of age such as discoloration on the panels and missing screws. It was observed that there was no arc flash labeling or labels to indicate that any electrical maintenance or testing had been performed.

The alley between portables C3 and C4 contains an exterior dry-type transformer that supplies an adjacent 500A, 120/208V, 3-phase distribution switchboard. The switchboard supplies the portables in the C area. This equipment has been exposed to the elements for several decades and shows signs of rust. The date on the switchboard indicates it was installed in 1991.

The alley between portables D2 and D3 also contains an exterior dry-type transformer that supplies an adjacent load center. This panel supplies power to two of the portables. The transformer has been field painted which covered the nameplate and rust was present at the bottom of the equipment.

Typically, each portable contains an interior, recessed load center that distributes a small amount of branch circuits for lighting, power, and HVAC. These are located within the interior, conditioned area and typically showed a minor amount of dust within the covers.

The restroom portable contains an exterior load center. This was installed with the building in 1994 and showed dirt build-up and early signs of rust.

The parking lot contains a solar carport structure that supplies power to the main switchboard. This system appears to have been installed within the last 10 years and is in good condition.

The paging/bell system has failed at the school. The staff mentioned during the survey that they have been using whistles to mimic an annunciation bell. As the investigation of the low voltage systems is beyond the scope of this FCA, these were not included in the deficiency report.

The electrical equipment original to the 1983 construction would be considered beyond its expected useful life and recommended to be replaced. During the assessment, exterior equipment were showing signs of rust and degradation.

Electrical Systems

INTERIOR LIGHTING

Interior lighting is comprised of a mix between 1980s fluorescent four-foot fixtures and modern LED-style fixtures. There appears to have been a LED lighting retrofit done in some areas of the campus.

In the multipurpose room, lights have been replaced with the newer LED-type. The remaining areas of the Wing A building primarily use four-foot fluorescent fixtures mounted on the surface of non-accessible ceilings. The classrooms in Wing A contain fluorescent cove lights. Wing A also contains downlights with an Edison-style screw-in base that have been retrofitted with screw-in LED lamps.

The Wing A classrooms and central area typically have 2'x4' surface-mounted fluorescent fixtures on the non-accessible ceilings. The interior rooms appeared well lit. Although the original fluorescent lighting fixtures are beyond their expected useful lives, maintenance replaces the lamps and/or ballasts as they fail to maintain the system. The classrooms typically have multiple light switches at the doors with ceiling mounted motion sensors. Wing B ceilings show evidence of roof leakage. Water intrusion into the fixtures would require replacement of the fixture.

The Wing C and D portables typically have modern 2'x4' recessed direct/indirect LED fixtures within T-bar ceilings. The classrooms typically have multiple light switches at the doors with low voltage controls for dimming the fixtures. There are ceiling mounted motion sensors. These appeared well lit.

Although the fluorescent lighting fixtures in the original buildings are beyond their expected useful lives, it was noted that maintenance staff replaces the lamps and/or ballasts upon failure in order to maintain the system. It is recommended that the fluorescent fixtures be replaced with LED-type fixtures with modern lighting controls. This would not be considered an immediate need due to the on-site maintenance program; however, it is recommended to be performed within the next five years.

Areas of the buildings that lack illuminated exit signage were observed during the assessment. There were printed signs posted; however, these would not be acceptable per the current building codes.

EXTERIOR LIGHTING

The permanent buildings contain wall-mounted HID lighting that appear original to the installation. The parking area contains under canopy LED lighting that was installed recently along with the solar installation. Exterior lighting appears to be in operational condition.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by a gas-fired water heater located by the cafeteria. Plumbing fixtures include floor mounted water closets, counter mounted sink, wall-mounted lavatories, and wall mounted drinking fountains.

The community outreach discussion identified concerns of an inadequate number of restrooms and drinking fountains to support the volume of students and faculty on the campus. More specifically, the community identified that the portable buildings were not designed to support a typical elementary school classroom need of providing support sinks within the classroom spaces.

Overall, the plumbing equipment and fixtures appear to be in operational condition except for issues in the staff cafeteria flush tank water closet. The flush tank water closet will need to be modified to flush appropriately.

Fire Protection Systems

There are no fire sprinkler systems located at this campus. Portable fire extinguishers are located throughout the classrooms and appear to be replaced regularly. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a Silent Knight #6820 addressable main fire alarm panel located in the Nurse's office behind the Administration work area. This panel appears to have been installed within the last 10 years. There is evidence of pull boxes related to an older fire alarm system that has been replaced. The Silent Knight fire alarm panel is currently manufactured, and spare parts and support should be readily available. No trouble conditions were observed with the annunciator panel located in the Administration area. The school contains smoke detectors, heat detectors, pull stations, and horn/strobes. The kitchen hood contains a fire suppression system.

Playgrounds

There are two playgrounds at Cambridge Elementary School that were inspected as part of the facility condition assessment. The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 years to help with maintenance.

PLAYGROUND 1

Playground 1 consists of a single component structure with multiple attached equipment. Based on a review of Google Earth, the playground structure was constructed in 2004. The playground equipment is showing signs of age and wear. The plastic coating on the metal platforms, landings, and walkways are showing signs of severe deterioration and should be replaced. The equipment is showing signs of age and wear, but otherwise noted in the deficiencies section below, appears to meet American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The play surfacing is a poured in place material that is in poor condition and showing signs of wear and deterioration throughout.

Poured in place playground surfacing has an expected useful life of 10 years. Based on the age and condition of the equipment a full replacement of all equipment and the surfacing material is recommended.

PLAYGROUND 2

Playground 2 consists of a single component structure with multiple attached equipment. The equipment is showing signs of age and wear but appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The fabric panels in the shade structure are showing signs of age and wear and should be replaced. The play surfacing is a poured in place material that appears to be in good condition but is past its expected useful life.

Poured in place playground surfacing has an expected useful life of 10 years. Based on this, the playground equipment should continue to be checked and maintained regularly. The fabric panels for the shade structure should be replaced as soon as possible. Finally, the poured in place surfacing is past its expected useful life and should be considered for replacement within the next five years or as soon as the material visibly breaks down.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Cambridge Elementary School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B1010	FLOOR CONSTRUCTION	\$1,439	-	-	\$1,700	-	-	-
B1080	STAIRS	\$1,804	-	\$570	\$1,350	-	\$200	-
B2010	EXTERIOR WALLS	\$102,025	\$39,010	\$9,670	\$14,740	\$22,070	\$34,460	-
B2020	EXTERIOR WINDOWS	\$2,392	-	-	\$2,820	-	-	-
B2050	EXTERIOR DOORS AND GRILLES	\$42,569	\$39,820	\$3,710	\$1,270	-	\$1,710	-
B2070	EXTERIOR LOUVERS AND VENTS	\$4,297	-	-	\$3,940	-	\$1,220	-
B3010	ROOFING	\$1,215,905	\$5,170	-	\$161,800	-	\$168,400	\$1,253,450
B3060	HORIZONTAL OPENINGS	\$4,602	\$4,120	\$300	-	\$320	\$340	-
C1030	INTERIOR DOORS	\$13,014	\$900	\$3,780	\$2,540	\$8,230	-	-
C1090	INTERIOR SPECIALTIES	\$385	-	-	-	-	\$490	-
C2010	WALL FINISHES	\$45,874	\$6,190	\$10,260	\$6,340	\$26,010	\$5,810	-
C2030	FLOORING	\$430,965	\$59,490	\$81,090	\$116,520	\$200,080	\$45,440	\$9,540
C2050	CEILING FINISHES	\$210,840	\$36,760	\$63,200	\$61,900	\$72,530	\$12,090	-
D2010	DOMESTIC WATER DISTRIBUTION	\$20,048	-	\$1,760	-	\$22,740	-	-
D2020	SANITARY DRAINAGE	\$1,865	-	-	-	-	\$2,390	-
D3030	COOLING SYSTEMS	\$523,158	-	-	\$300,270	\$109,450	-	\$239,000
D3050	FACILITY HVAC DISTRIBUTION SYSTEMS	\$956,799	-	-	-	-	\$765,440	\$477,200

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D3060	VENTILATION	\$32,333	-	-	-	-	-	\$43,000
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$353,286	\$335,640	\$4,120	\$45,860	-	-	-
D5030	GENERAL PURPOSE ELECTRICAL POWER	\$264	\$280	-	-	-	-	-
D5040	LIGHTING	\$753,499	\$36,710	-	-	-	\$920,960	-
D7050	DETECTION AND ALARM	\$536,415	-	-	-	-	\$686,610	-
E2010	FIXED FURNISHINGS	\$5,737	-	\$640	\$1,570	-	\$4,900	-
F1050	SPECIAL FACILITY COMPONENTS	\$1,155	\$1,250	-	-	-	-	-
G2010	ROADWAYS	\$20,818	-	-	\$24,570	-	-	-
G2020	PARKING LOTS	\$222,679	-	-	-	-	\$285,030	-
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$3,811	-	\$280	-	-	\$4,570	-
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$770,547	\$471,490	-	-	-	\$427,510	-
G2060	SITE DEVELOPMENT	\$7,926	-	-	\$4,330	-	\$5,450	-
G2080	LANDSCAPING	\$22,014	\$7,750	\$960	-	-	-	\$18,600
TOTALS		\$6,308,466	\$1,044,580	\$180,340	\$751,520	\$461,430	\$3,373,020	\$2,040,790
TOTAL (Priority 1-6 without escalation)		\$6,308,466	\$7,851,680					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Expand the Multi-Purpose Room (MPR) and Kitchen to accommodate increased capacity. Improve efficiency of layout when MPR is used as cafeteria.	\$ 2,500,000
Install additional convenience outlets in classrooms.	\$ 165,000
Replace intercom system with modern system.	\$ 241,395
Add additional bathrooms to address the current shortage.	\$ 1,200,000
Expand the existing library.	\$ 950,000
Total Project Cost Estimate:	\$5,056,395

Playground Upgrades Summary

Estimated costs for the playground upgrades were derived from the Facility Condition Assessment and safety inspection of the playground facilities.

Playground Upgrades	Project Cost Estimate
Playground 1	\$ 278,535
Playground 2	\$ 125,810
Total Project Cost Estimate:	\$ 404,345

This page intentionally left blank.

Center Elementary School

Detailed Report

Address: 3101 Markeley Lane, Fairfield, CA 94533

Statistics

Year Built: 1958
Total Building Area: 55,400 SF

FCA Summary

Capital Renewal Cost: **\$10,234,848**
FCI: 0.145
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$70,576,000

Overall Campus



Narratives

Architectural Systems

Center Elementary School serves a student population ranging from kindergarten to sixth grade. The campus is located at 3101 Markeley Lane in Fairfield, California and consists of a large upper field, asphalt play area, three playgrounds, and an upper and lower parking lot which both include photovoltaic shade structures.

Overall, the architectural finishes in Center Elementary School are in poor condition. Most of the interior ceiling and flooring finishes are old and worn and exterior finishes generally need repair or replacement. The modified bitumen roofs, skylights, and window systems are especially in poor condition and should be considered for replacement within the next few years.

BUILDING

Center Elementary is a single-story, 55,400-square-foot, brick and wood-frame building. The school was originally constructed 1958 and is comprised of three sections (Wings A, B, and C) connected by a hallway running north to south. According to staff and records from the District, Wing C was reconstructed in 1977 due to a building fire. During the assessment, it was observed that the interior finishes of the wing were in slightly better condition than those in Wings A and B. The interior program space consists of 28 classrooms, a multipurpose room, kitchen, library, and front office.

The exterior finishes consist of brick masonry, cement plaster, ceramic tile, metal windows, asphalt shingle roofing, and modified-bitumen roofing. The brick masonry is in fair condition but has minor signs of discoloration and damage in some areas. The cement plaster finish is flaking off in several areas and cracking. It is recommended the entire cement plaster finish be cleaned and repainted. The metal windows are showing signs of rust and some of the classroom clerestory windows are broken or beyond their useful lives. A majority of the sealant at the clerestory windows is cracking and should be considered for replacement. The asphalt composition shingle roofs above the classroom appear to be in fair condition but may be approaching the end of their useful lives within the next 10 years. The ceiling tiles in the classrooms show signs of water damage, which is likely associated to the roof. The roof gutters generally appear to be in fair condition. The modified-bitumen roofing above the corridors, office, library, and restrooms were found to be in poor condition, with signs of joint deterioration and ponding occurring throughout. The skylights are also slightly discolored and have been reported to leak. Full replacement of the modified-bitumen roof, along with skylights and flashing is recommended within the next five years.

Architectural Systems

The interior finishes include vinyl composition tiles, vinyl asbestos tile, sheet vinyl, rolled and tiled carpet, gypsum board walls, and glue-on acoustical ceiling tiles. The vinyl composition tile flooring in the hallways is generally in fair to poor condition, with several areas showing signs of separation and damage. It is recommended that areas of the flooring be replaced as necessary. In the classrooms, the finishes consist of glue-on acoustical ceiling and wall tiles, along with carpet flooring. The glue-on acoustical tiles show signs of wear, contain areas where the tiles are uneven and appear to be falling off, and are approaching the end of their useful life. The multipurpose room also contains glue-on ceiling tiles which are dirty, worn, and showing signs of separation. Full replacement of the glue-on ceiling tiles is recommended within the next five years in the entire facility. Additionally, the carpet flooring shows signs of wear and stains and should be considered for replacement within the next 10 years. Several of the classroom closets were found to contain vinyl tiles that are likely asbestos-containing materials. The cabinets and casework appear to be original to the building and are beyond their useful lives. The administration office and nurse's office areas are undersized and lack accessible accommodations such as a compliant reception counter and wheelchair maneuvering space in the nurse's office.

SITE

The site paved surfaces consist primarily of asphalt concrete (AC) paving and concrete walkways. During the assessment, several areas of the concrete walkways along the perimeter of the building were showing signs of cracking and heaving, creating trip hazards for faculty and students. The AC paving throughout the play areas is generally weathered and showing signs of cracking. Staff has reported flooding to occur in several areas of the asphalt play area. Repair and resealing of the AC paving is recommended. Generally, the walkways along the perimeter of the building are in fair condition with minor cracking that should be repaired before it worsens. All classrooms contain a door leading to the hallway and one that leads outside. The exterior doors lack level landings outside of the door and should be provided.

The upper grassy field has been reported to contain holes in the ground potentially created by gophers. These holes present trip hazards that are dangerous when the field is in use for recreational activities. Further investigation is recommended to mitigate this condition. The retaining wall and staircase between the upper field and the lower asphalt play areas are showing signs of damage and cracking.

The parking lots are generally in fair condition, however, resealing of the asphalt surface is recommended within the next five years. The lower parking lot is partially comprised of gravel and asphalt driveways and parking stalls. The asphalt appears to be in fair condition but will require resealing and restriping within the next six years.

Mechanical Systems

The mechanical systems consist of a centralized hydronic cooling and heating plant consisting of two gas-fired boilers with associated heating hot water pumps and two air-cooled chillers with associated chilled water pumps. The hydronic system is distributed from these plants and distributed on the roof deck and then above the ceiling to each air handler. These hydronic air handlers act as the main source of heating and cooling at each classroom but is split between two classrooms. Outside of the hydronic systems, there is a rooftop packaged unit that serves the library. Ventilation is provided by rooftop exhaust fans at the multi-purpose room and the restroom spaces. The conditioned air is distributed to the spaces via ceiling and wall diffusers. Controls on the campus are Delta controls.

The community outreach discussion identified concerns with the HVAC system throughout the school. Building maintenance engineering staff have confirmed issues of inadequate cooling during peak summer temperatures. Additionally, during these summer months, electrical breakers tend to pop causing the HVAC operation to intermittently operate during the school year. The air handlers at each classroom are likely undersized for the class size and layout of the space. The combination of systems approaching the end of their expected useful life serving full occupancy classrooms with vaulted ceilings during the summer conditions indicates an upcoming need of replacement.

The hydronic plant also contributes to the concerns with the HVAC system as it is near the end of its expected useful life. Replacement of the hydronic system in conjunction with the air handler equipment at the classrooms will aid in resolving the thermal comfort issues throughout the campus classrooms.

A lack of HVAC control was also identified during the community outreach discussion. Each classroom does not have an individual unit. Therefore, an HVAC unit will always operate two neighboring classrooms and dependent on the classroom operation, operating an unoccupied classroom could be a potential waste of energy. The two classroom space zones that share an air handler also share a single temperature thermostat control. Further discussion is required to understand the community concern regarding HVAC control within the campus.

Due to the age of most of the HVAC units on the campus, most equipment is considered energy inefficient by today's standards, are charged with an EPA phased out refrigerant, and support is being phased out by the manufacturer. If the equipment requires any maintenance or charging of the refrigerant, significant costs to maintain the system will likely occur.

Overall, the mechanical system appears to be in operational condition, but the HVAC equipment is nearing the end of its expected useful life. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by a gas-fired water heater located in the main hall at the janitor closet and the multipurpose room for the cafeteria. There is no domestic hot water at most of the student restrooms. Plumbing fixtures include water closets, counter mounted sink, wall mounted lavatories and wall mounted drinking fountains.

The community outreach discussion identified concerns with the sanitary sewer condition. Although the assessment team was unable to verify the condition, further evaluation of the sanitary sewer lines is recommended to be evaluated to understand scope and condition of the system to identify refurbishment or replacement of the entire or sections of the sanitary sewer piping throughout the campus.

Overall, the plumbing equipment and fixtures appear to be in operational condition except for issues in the staff cafeteria flush tank water closet. The flush tank water closet will need to be modified to flush appropriately.

Electrical Systems

POWER

The campus contains two electrical services with two electrical meters. The original service terminates in a main switchboard located in a storage room at the end of the Wing A building. It is supplied by an underground electrical service from PG&E. This switchboard is rated for 600A at 208Y/120V, 3 phase, 4 wire and consists of two sections. The first section contains a PG&E meter and 600A circuit breaker and the second section is the distribution switchboard containing circuit breakers. Section one appears to be original to the late 1950's installation while section two appears to have been replaced later, likely during the 1970s Wing C reconstruction. Both sections contain obsolete Square D circuit breakers and are past their expected useful life. The switchboard supplies feeders to remote 208Y/120V panelboards in the Wing A, Wing B, Wing C, MPR, and Library buildings.

The panelboards are typically original to the buildings, recessed, and are obsolete Square D type. No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed. The original equipment far exceeds its expected useful life.

The Library contains a load center that was more recently installed and appears to have been completed under the 1970s renovation. Newer load centers have been installed adjacent to the older panelboards in some areas. The feeders have been extended to these to allow for more circuits to be installed. The staff did mention that lack of circuits and receptacles in the classrooms is an ongoing problem that they deal with by using long extensions cords.

The second service was installed more recently and terminates in a main switchboard at the Central Plant mechanical yard that is supplied underground from PG&E. This switchboard is rated for 600A at 480V, 3 phase, 4 wire and contains a PG&E meter, main disconnect switch, and distribution circuit breakers for the mechanical equipment in the yard. This equipment appears to have been installed within the last 20 years and contains modern circuit breakers.

The parking lot contains a solar carport structure that supplies power back to the Central plant switchboard. This photovoltaic system appears to have been installed within the last 10 years and appears to be in good condition.

Electrical Systems

INTERIOR LIGHTING

Interior lighting in the classrooms is typically surface mounted fluorescent fixtures. The classrooms typically have bi-level switching at the entrance doors and motion detectors on the ceilings. The multipurpose room building contains surface mounted eight-foot fluorescent fixtures with the older style parabolic reflectors. The kitchen area contains surface mounted fluorescent fixtures with a lensed diffuser. The Administration building appears to have been remodeled. The ceilings are T-bar type with recessed 2' x 4' direct/indirect light fixtures.

The interior rooms appeared well lit. Although the original fluorescent lighting fixtures are beyond their expected life, maintenance staff maintains the system by replacing the lamps and/or ballasts as they fail. We recommend that the fluorescent fixtures be replaced with LED type fixtures with modern lighting controls. For purposes of analysis, we do not consider this an immediate need due to the on-site maintenance program. We would recommend this be performed within the next five years. The classrooms typically lack illuminated exit signs. These rooms contain printed exit signage at the doors that lead to the exterior of the school.

EXTERIOR LIGHTING

There are surface mounted fixtures under the canopies that have polycarbonate diffusers. These showed some dirt build-up. There are LED floodlights aimed at the playground that looked recently installed. The parking area contains under-canopy LED lighting that was installed along with the solar installation.

Fire Protection Systems

Fire sprinklers only serve the stage area of the multipurpose room. Portable fire extinguishers are located throughout the classrooms and appear to be regularly replaced. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a FCI #7100 addressable main fire alarm panel located in a telecom/storage room off the main corridor. The panel appears to have been installed during the last 20 years. This panel is no longer manufactured and the #7100 has been discontinued.

There are smoke detectors, pull stations and horn/strobes in the corridors. The classrooms do not have fire alarm devices. It appears when the fire alarm system was renovated, they re-used the previous conduits but did not run new conduits and circuits into the classrooms. Staff did mention they had a classroom where it was difficult to hear an alarm.

Playgrounds

There are three playgrounds at Center Elementary School that were inspected as part of the facility condition assessment. The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 years to help with maintenance.

PLAYGROUND 1

Playground 1 consists of a single component structure with attached equipment and multiple standalone pieces of equipment play linked together. The equipment is showing signs of age and wear but appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The step ladder handrail width and step tread width do not meet ASTM requirements. The shade structure fabric panels are worn and damaged and the playground surfacing is past its useful life and is severely deteriorated throughout.

Based on the assumed installation date the playground will be past its expected useful life in 2029. To extend the life of Playground 1, it is recommended that the step ladder handrail, step treads, and shade structure fabric panels be replaced as soon as possible. The poured in place surfacing is past its expected useful life and should also be replaced as soon as possible.

PLAYGROUND 2

Playground 2 consists of a single component structure with attached equipment and multiple standalone pieces of equipment play linked together. The equipment is showing signs of age and wear but appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The climbing wall plastic around the connecting hardware is damaged, creating a sharp point and edge hazard. Bolts/screws are also missing or loose. Both chain climbing nets have plastic coating around the chain links that are severely cracked creating a sharp point, edge,

Playgrounds

and a pinching hazard. The entrance and exit height of the stair requires a barrier. The poured in place surfacing is showing signs of age, wear, and damage. The plastic coating around the chain links for the upper body equipment is severely cracked creating a sharp points, edge, and pinching hazard.

Poured in place playground surfacing has an expected useful life of 10 years. Based on the assumed installation date the playground will be past its expected useful life in 2029. To extend the life of Playground 2 it is recommended that the plastic climbing wall be replaced as soon as possible, as should the plastic-coated chain climbing netting on both flexible climbers. The existing handrails, poured in place surfacing, and plastic-coated chain net in the upper body equipment area should also be replaced.

PLAYGROUND 3

Playground 3 consists of a single component structure with multiple attached equipment. The equipment is showing signs of age and wear but appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). Plastic around the connection point of a climber is broken creating a potential sharp point and edge hazard. A slide entrance has damage that is also creating a potential sharp point and edge hazard. The exit region of a slide is too high. The shade structure fabric panels are worn and damaged. In addition one of the fabric panels is tied off to the play structure providing access to connecting hardware.

The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 to help with maintenance. Poured in place playground surfacing has an expected useful life of 10 years. To extend the life of Playground 3 it is recommended that the plastic climber and slide entrance be replaced. The height of the slide exit should be adjusted. Immediate removal of the fabric panel connected to the play structure and replacement of the fabric panels is also needed.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Center Elementary School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B2010	EXTERIOR WALLS	\$163,223	-	-	\$22,580	\$177,230	-	-
B2020	EXTERIOR WINDOWS	\$62,192	\$15,500	\$32,440	-	-	\$24,490	-
B2050	EXTERIOR DOORS AND GRILLES	\$208,023	\$163,970	\$12,700	\$7,630	\$39,720	\$7,650	\$320
B3010	ROOFING	\$1,810,742	-	-	-	-	\$985,890	\$1,383,890
B3020	ROOF APPURTENANCES	\$7,176	-	-	\$8,470	-	-	-
B3060	HORIZONTAL OPENINGS	\$57,408	\$1,030	\$40,540	\$24,280	-	-	-
C1030	INTERIOR DOORS	\$40,745	\$21,700	\$800	\$1,940	\$1,890	\$21,450	-
C1090	INTERIOR SPECIALTIES	\$5,737	-	-	-	-	-	\$7,630
C2010	WALL FINISHES	\$173,481	-	-	\$5,360	\$1,850	\$214,320	-
C2030	FLOORING	\$581,397	\$1,930	\$910	\$1,900	-	\$190,150	\$570,110
C2050	CEILING FINISHES	\$928,703	\$28,770	\$4,830	\$22,460	-	\$226,920	\$932,950
D1010	VERTICAL CONVEYING SYSTEMS	\$47,840	\$51,670	-	-	-	-	-
D2010	DOMESTIC WATER DISTRIBUTION	\$31,684	\$3,610	\$11,130	-	-	-	\$24,590
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	\$4,784	-	\$5,410	-	-	-	-
D3020	HEATING SYSTEMS	\$157,872	-	\$178,400	-	-	-	-
D3030	COOLING SYSTEMS	\$772,737	-	\$662,230	\$205,660	-	\$15,930	-
D3050	FACILITY HVAC DISTRIBUTION SYSTEMS	\$151,162	-	\$59,480	\$63,510	\$55,000	-	-

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D3060	VENTILATION	\$60,327	-	-	-	-	\$77,220	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$192,718	\$193,870	-	-	-	\$16,890	-
D5040	LIGHTING	\$1,438,705	\$566,410	-	-	-	\$1,121,260	\$50,900
D7050	DETECTION AND ALARM	\$983,415	\$1,062,090	-	-	-	-	-
E2010	FIXED FURNISHINGS	\$528,976	-	-	\$533,460	\$31,770	\$40,860	\$25,450
F1050	SPECIAL FACILITY COMPONENTS	\$16,744	\$1,030	\$17,840	-	-	-	-
G2010	ROADWAYS	\$819,421	-	\$125,850	\$3,300	-	\$66,870	\$868,510
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$105,775	\$32,690	\$7,470	\$81,300	-	-	-
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$873,687	-	-	\$330	-	-	\$1,161,630
G2060	SITE DEVELOPMENT	\$5,879	\$150	-	\$6,770	-	-	-
G2080	LANDSCAPING	\$4,297	-	-	\$5,070	-	-	-
TOTALS		\$10,234,848	\$2,144,420	\$1,160,030	\$994,020	\$307,460	\$3,009,900	\$5,025,980
TOTAL (Priority 1-6 without escalation)		\$10,234,848	\$12,641,810					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Install outdoor shade structures over picnic tables	\$ 450,000
Evaluate traffic issues and explore options like staggering start times or expanding into the basketball court and upper field area.	\$ 500,000
Upgrade safety measures, including fencing and CCTV installation	\$ 836,000
Install bottle filling water fountains throughout the school	\$ 50,000
Install wheelchair ramps to ensure accessibility	\$ 12,000
Repair or replace the non-functioning P.A. system	\$ 170,000
Convert the current library into a new administration office to improve safety of the campus and allow visitors to easily identify and access the front office. Convert the current office into a new library	\$ 3,100,000
Total Project Cost Estimate:	\$5,118,000

Playground Upgrades Summary

Estimated costs for the playground upgrades were derived from the Facility Condition Assessment and safety inspection of the playground facilities.

Playground Upgrades	Project Cost Estimate
Playground 1	\$ 231,090
Playground 2	\$ 199,340
Playground 3	\$ 12,177
Total Project Cost Estimate:	\$ 442,607

This page intentionally left blank.

District Office Detailed Report

Address: 2751 De Ronde Drive, Fairfield, CA 94533

Statistics

Year Built: 1966 - 2015
Total Building Area: 24,200 SF (combined)

FCA Summary

Capital Renewal Cost: **\$3,775,970**
FCI: 0.153
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$24,672,000

Overall Campus



This page intentionally left blank.

Narratives

Architectural Systems

The Travis Unified School District Office is located at 2751 De Ronde Drive in Fairfield, California, adjacent to the Travis Education Center (TEC). The site consists of eight buildings that have been constructed from the mid-1960s to 2015. The District Office serves the entire school district and houses the following departments: Administration, Business Operations, Transportation, Student Services, Grounds Department, Shipping and Receiving, and Maintenance and Operations. The architectural finishes can be generally described to be in poor to fair condition.

ADMINISTRATION

The Administration Building is a single-story, 4,500-square-foot, concrete, and wood-frame building constructed in 1966 according to drawings provided by the District. It is primarily used by administrative staff and consists of offices, conference rooms, break rooms, and restrooms.

The exterior of the building is comprised of exposed aggregate concrete wall, cement plaster, vinyl windows, and a modified bitumen roof. The exposed aggregate and cement plaster walls appear to be in fair condition with minor signs of wear. The vinyl windows appear to be in fair condition; however, the seals along the perimeter of the windows are deteriorating. The modified-bitumen roofing shows signs of ponding and blistering along with an accumulation of debris on the roof and in the drains. The exterior walls are recommended for repair and repainting, while the roof is recommended for replacement within the next several years.

The interior finishes consist of vinyl composition tiles, carpet tiles, porcelain floor tiles, gypsum wallboard, and glue-on and lay-in acoustical ceiling tiles. The flooring is largely comprised of carpet which appears to be in good condition in contrast to the ceiling tile finishes. Several areas including the conference room contain ceiling tiles that are showing signs of water damage, while other areas indicate displacement and bowing of the tiles. A full replacement of both the glue-on and lay-in acoustical ceiling tile finishes is recommended within a five-year period. Further investigation is recommended to determine the source of water damage. The vinyl composition tiles, applied primarily in the storage closets, show signs of wear. The gypsum wall boards have minor cracks and should be patched and painted. Overall, the interior finishes are in fair condition with the exception of the ceiling tiles.

Architectural Systems

BUSINESS OPERATIONS

The Business Operations building is a 2,300-square-foot, triple-wide, portable office building located between the Administration and Grounds Department buildings. The building consists of a reception area, private offices, and restrooms.

The exterior finishes consist of T1-11 siding and modified-bitumen roofing, which are both in poor condition. The modified-bitumen roofing shows indications of blistering and damage was observed at the roof flashing. The wood finishes at the siding and entrance stair/ramp structure are weathering and are recommended for repainting.

The interior finishes are comprised of rolled carpeting, gypsum board walls and ceilings, wood doors, and wooden casework. The gypsum board walls and ceilings are in good condition and require minor repair and patching. The wood doors are in fair condition, but the hardware is recommended for replacement. The carpet flooring is showing signs of wear and stains. It was reported by staff that there have been incidents of flea infestations within the carpet flooring. Replacement of the carpet flooring is recommended immediately. It was also reported by staff that possums and rodents may be living in the crawlspace underneath the building based on noises they had heard. Lastly, staff mentioned the doors get stuck on the frames and are difficult to operate during rainy weather. Further investigation is required to determine the cause of the noise and sticking of doors. Overall, the interior finishes are in fair condition with the exception of the carpet and areas where investigation is required.

MAINTENANCE AND OPERATIONS

The Maintenance and Operations building is a 1,350-square-foot, portable structure with restrooms, located adjacent to the Grounds Department warehouse. It was manufactured in 1997 but was installed on site in 2015. The building primarily consists of offices and restrooms.

The exterior of the building consists of T1-11 siding, aluminum windows, wood doors, and a metal roof. The siding is showing signs of weathering throughout the exterior and should be replaced within the next few years. The roof appears to be in fair condition with no leaks reported by staff; however, it is showing signs of rust and discoloration and should be considered for repair and repaint within the next couple of years. The aluminum windows are operable but leak according to staff. Overall, the exterior finishes are in fair to poor condition with the siding and window seals recommended for replacement.

The interior finishes are comprised of rolled carpeting, vinyl wall covering, and lay-in acoustical ceiling tiles. The carpet flooring is generally in fair condition with some signs of wear. The lay-in acoustical ceiling tiles show signs of wear and water stains in some areas. Further investigation is recommended to determine the source of water damage. Overall, the interior finishes are in fair condition; however, replacement of the carpet and ceiling tiles will be necessary within a five-year period.

Architectural Systems

GROUNDS DEPARTMENT

The Grounds Department and Shipping and Receiving buildings are identical 4,000-square-foot, pre-fabricated metal buildings. The Grounds Department consists of shelf storage while the Shipping and Receiving includes storage and offices for clerical purposes.

The exterior of the buildings consist of corrugated sheet metal siding and a metal roof. The corrugated siding is dented in certain areas and will need repair and/or replacement. The large metal roll-up door and entry doors also have significant dents and rust. The buildings lack interior architectural finishes with the exception of the Shipping and Receiving building, which includes carpeting, painted gypsum board wall, and wood in addition to the exposed concrete flooring and metal walls. Replacement of the flooring, walls, and casework is recommended to occur within the next five years. Overall, the metal buildings are in fair condition for their use.

STUDENT SERVICES

The Student Services building is a 2,000-square-foot, wood-framed structure located adjacent to the Transportation building. The building consists of offices, a conference room, and restrooms.

The exterior finishes include asphalt shingle roofing, modified bitumen roofing, and plywood siding. The asphalt shingle roofing appears to be in good condition in contrast to the modified-bitumen roof which shows signs of wear. The plywood siding is weathering and shows signs of damage and cracks. The exterior siding and modified-bitumen roofing are recommended for replacement within the next few years.

The interior finishes consist of carpet flooring, gypsum board walls, and glue-on acoustical ceiling tiles. The carpet flooring throughout the building is worn and should be replaced within the next five years. The gypsum board walls are in fair condition and require touch-ups. The glue-on acoustical ceiling tiles, especially in the conference room, show signs of shifting and water damage. Replacement of the ceiling tiles is recommended within the next year.

Architectural Systems

TRANSPORTATION

Constructed in 1966, the Transportation building is a 5,700-square-foot, concrete and wood-frame garage and office building located at the center of the site. The building program consists of offices, a garage, storage rooms, and restrooms.

The exterior finishes consist of concrete, exposed aggregate, and modified-bitumen roofing. Minor cracking was observed at some of the concrete walls that should be filled and patched. The modified-bitumen roofing is showing signs of wear and should be recommended for replacement within the next five years. Overall, the exterior finishes are in fair condition.

The interior finishes consist of concrete, gypsum board walls and ceilings, linoleum flooring, and carpet flooring. The concrete walls are in good condition with small cracks, and the gypsum board finishes show signs of wear and mold growth at some of the walls. The linoleum and carpet flooring finishes in the garage, office, and tool storage rooms are in poor condition and should be considered for replacement within the next few years.

WORKSHOP

The Workshop is a 350-square-foot concrete brick building with asphalt shingle roofing that consists of a small wood shop with two doors.

The exterior finishes include concrete bricks and asphalt shingle roofing. The concrete brick shows an indication of efflorescence, and the asphalt shingle roofing is flaking off. It is recommended that the brick be cleaned and asphalt shingle roofing be replaced within the next few years. The interior is largely unfinished but includes wood casework and work benches. Overall, the building is in fair condition.

Mechanical Systems

The mechanical systems at the District Office vary within each building as described below.

- Business Operations consists of wall mounted heat pumps.
- Maintenance and Operations consists of a wall mounted heat pump.
- Student Services consists of a window mounted air conditioning unit.
- Human Resources consists of rooftop mounted packaged air conditioning systems, rooftop exhaust fans, and a mini-split system.
- Conference Room B consists of a split system air conditioning unit.
- Shipping and Receiving consists of portable through-wall air conditioning units.
- Grounds Department consists of gas-fired unit heaters.
- Transportation consists of rooftop mounted packaged air conditioning units, rooftop exhaust fans, a window mounted air conditioning unit, utility exhaust fans, and a radiant wall heater.
- Workshop consists of a unit heater.

The conditioned air is distributed to the spaces via ceiling diffusers where there are wall mounted heat pumps or rooftop mounted packaged air conditioning systems. Controls at the District Office are primarily Delta Controls.

The community outreach discussion identified concerns at the Student Services building with air quality issues, but during time of inspection, there was no evidence of such issues in the Student Services building. Thermal comfort concerns are likely due to the increase of computers in the spaces, which increase the process loads from the original office layout design.

Due to the age of most of the HVAC units on the campus, most equipment is considered energy inefficient by today's standards, are charged with an EPA phased out refrigerant, and support is being phased out by the manufacturer. If the equipment requires any maintenance or charging of the refrigerant, significant costs to maintain the system will likely occur.

Overall, the mechanical system appears to be in operational condition, but the HVAC equipment is nearing the end of its expected useful life. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Plumbing Systems

The plumbing systems throughout all buildings are consistent with domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by an electric water heater in the Student Services building and Human Resources building, and by a tankless water heater in the Transportation building. Plumbing fixtures include floor mounted water closets, counter mounted sinks, wall mounted lavatories, and wall mounted drinking fountains.

The community outreach discussion identified concerns at the Human Resources building with sewer smells in their copy room adjacent to their electric water heater. This issue appears to be due to a dry floor drain trap allowing sewer gases to pass into the space. It is recommended that a trap primer be installed to maintain a liquid seal within the floor drain to prevent sewer gases from escaping.

Overall, the plumbing equipment and fixtures appear to be in operational condition, except for water heaters that are approaching the end of their expected useful service life.

Electrical Systems

POWER

The District Office site consists of a cluster of separate campus buildings built at various times, beginning in 1966. The site contains two electrical services. One for the office/services buildings, and the other is dedicated only for the exterior lift station.

Service #1

The office/services buildings' electrical service terminates in a main switchboard that is located on the exterior next to the Administration building within a fenced yard that is supplied by an underground electrical service from PG&E. The switchboard is rated for 800A at 208/120V, 3 phase, 4 wire and consists of a PG&E meter, a main 800A circuit breaker, and a distribution switchboard. The switchboard supplies underground feeders to the buildings onsite. The enclosure is an outdoor type with an outer door that protects the interior inner cabinet. Significant rust is present on the interior of the enclosure. The switchboard's nameplate showed a 1966 manufacturer date and there are no labels that indicate any servicing was ever done. Obsolete ITE circuit breakers are also present and the exterior glass viewing window for the enclosure is cracked. This equipment is far beyond its expected useful life.

The Administration building contains a 400A, 208/120V panelboard 'DA' within a Janitor's closet fed from the main switchboard. This panelboard supplies two other panels in the building, 'A', and 'DA-1'. Panel 'DA' and 'A' appear original to the construction, and contain similar obsolete ITE circuit breakers. The older panels are in interior locations and did not show rust but are far past their expected useful life.

Electrical Systems

Panel “DA-1” was installed at a later date to expand the number of circuits in the building, likely during the interior remodel.

The Transportation building contains surface mounted panelboards ‘B’ and ‘B-1’ supplied with a 225A underground feeder from the main switchboard, which are obsolete ITE type equipment. There was discoloration on the enclosures and tape was used to cover openings in the missing breaker spaces in some locations.

The Business Operations structure is a portable building that was installed after the original 1966 construction. The building has a main server room that contains panelboards dated from 2009 that are in good condition. The remaining interior contains load centers that are original to the portables and look to be over 20 years old. There is also an exterior distribution panelboard that feeds the interior load centers that appears to have been installed within the last 20 years and had early signs of rust.

Student Services is a portable building that is supplied from the main switchboard and contains interior load centers that were dated from the 1960s.

The smaller support buildings for the Workshop, Grounds Department, and Shipping and Receiving each have a small load center within their structure. These appeared to have been installed within the last 20 years.

No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed.

Service #2

Electrical Service #2 supplies the lift station within an exterior, fenced mechanical yard. There is an exterior switchboard that supplies the associated pumps which is rated for 300A, 480V, and 3-phase. The switchboard is a vintage Square D type of the similar late 1960’s era that is supplied by an underground service from PG&E. The switchboard is in poor condition, with heavy rust on the enclosure to the point of visible gaps in the exterior cover. There is also thick, heavy dirt build up at the bottom of the switchboard. The enclosure doors do not allow the equipment to be opened to a full 90 degrees due to blockage from an adjacent concrete pad in the yard, a clear code violation. No indications of servicing were noticed. We recommend this be replaced under a Year 1 condition.

Electrical Systems

INTERIOR LIGHTING

- Administration Building: Interior lighting in the building is typically surface mounted and pendant mounted fluorescent fixtures. The office appears to have undergone a renovation from the original 1966 installation.
- Student Services: Interior lighting in the building is typically surface mounted fluorescent fixtures attached directly to the ceiling.
- Workshop and Shipping and Receiving: Interior lighting is based on surface mounted fluorescent strip fixtures. The Grounds Department building has similar pendant mounted fluorescent strips.
- Maintenance and Operations: Interior lighting consists of recessed 2' x 4' fluorescent fixtures.

The interior rooms appear to have adequate levels of lighting. Although the original fluorescent lighting fixtures are beyond their expected life, maintenance replaced lamps and/or ballasts as they fail to maintain the system. It is recommended that the fluorescent fixtures be replaced with LED type and modern lighting controls. We do not consider this an immediate need due to the on-site maintenance program; however, it is recommended to perform this work within a long term plan over the next five years.

Areas of the buildings that lack illuminated exit signage were observed. There were printed signs posted to direct the public. These would not be code compliant.

EXTERIOR LIGHTING

The District Office building contains recessed downlights underneath the exterior canopy along the perimeter of the building. The housings appear original to the building and the fixtures appear to be screw in type LED or incandescent lamps. These fixtures do not have a lens to seal them and the housings appeared dirty. We recommend these be replaced in Year 1 due to age and condition.

The support buildings have a mixture of HID and LED type wall packs. These sealed fixtures appear to be in fair condition. We recommend replacing the HID with LED type within the next five years.

Fire Protection Systems

There are no active fire sprinkler systems located at the District Office. Portable fire extinguishers are located throughout the buildings and appear to be replaced on a regular basis. Only the Human Resources building appears to have an abandoned fire protection system.

Fire Alarm Systems

No central fire alarm panel was observed. There are smoke detectors in the Transportation building that appear to be single station types that are battery powered and not connected to a fire alarm system.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the District Office campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B1010	FLOOR CONSTRUCTION	\$5,392	-	-	\$5,650	-	\$780	-
B1080	STAIRS	\$2,392	-	\$2,700	-	-	-	-
B2010	EXTERIOR WALLS	\$80,862	\$1,500	-	\$18,060	\$31,860	\$48,990	-
B2020	EXTERIOR WINDOWS	\$2,068	\$2,060	\$180	-	-	-	-
B2050	EXTERIOR DOORS AND GRILLES	\$136,242	\$36,160	\$4,650	\$51,240	\$40,320	\$28,720	-
B3010	ROOFING	\$247,085	-	\$164,200	\$74,650	\$33,830	\$14,090	-
B3020	ROOF APPURTENANCES	\$1,257	-	\$1,010	-	\$450	-	-
B3060	HORIZONTAL OPENINGS	\$264	-	-	-	\$320	-	-
C1010	INTERIOR PARTITIONS	\$507	-	-	\$600	-	-	-
C1030	INTERIOR DOORS	\$100,950	\$770	\$12,900	-	-	\$113,700	-
C2010	WALL FINISHES	\$12,710	-	-	-	\$7,360	\$8,610	-
C2030	FLOORING	\$229,226	-	\$1,810	\$51,810	\$120,030	\$110,240	-
C2050	CEILING FINISHES	\$94,058	\$30,830	-	\$13,200	-	\$69,530	-
D2010	DOMESTIC WATER DISTRIBUTION	\$22,683	-	-	\$2,920	\$3,040	\$22,700	-
D2020	SANITARY DRAINAGE	\$3,588	\$3,880	-	-	-	-	-
D3020	HEATING SYSTEMS	\$20,150	-	-	\$22,370	\$1,470	-	-
D3030	COOLING SYSTEMS	\$373,922	\$38,750	\$66,330	\$23,940	-	\$104,090	\$236,350

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D3060	VENTILATION	\$31,096	-	-	-	\$14,710	\$24,480	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$142,121	\$114,910	-	\$16,310	-	\$28,020	-
D5040	LIGHTING	\$438,384	\$49,910	-	-	-	\$501,980	-
E2010	FIXED FURNISHINGS	\$56,901	-	-	\$10,170	-	\$20,650	\$42,760
F1050	SPECIAL FACILITY COMPONENTS	\$396,544	\$196,330	\$15,190	\$79,480	-	-	\$178,160
G2010	ROADWAYS	\$416,775	\$4,490	-	\$110,080	\$358,340	\$35,830	-
G2020	PARKING LOTS	\$770,608	\$45,630	-	\$859,470	-	-	-
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$37,481	\$40,470	-	-	-	-	-
G2060	SITE DEVELOPMENT	\$9,183	\$9,920	-	-	-	-	-
G3010	WATER UTILITIES	\$143,520	\$155,000	-	-	-	-	-
TOTALS		\$3,775,970	\$730,610	\$268,970	\$1,339,950	\$611,730	\$1,132,410	\$457,270
TOTAL (Priority 1-6 without escalation)		\$3,775,970	\$4,540,940					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Expand and reconfigure the transportation garage to provide adequate bus parking spaces	\$ 459,000
Conduct a space planning assessment for the various departments to optimize and allocate space more efficiently	\$ 100,000
Design and construct a new sewer lift station to improve sewage handling and disposal	\$ 70,000
Perform an assessment on the existing stormwater system to investigate drainage and runoff issues on the school property	\$ 50,000
Procure and install a modular kitchen to accommodate increased kitchen capacity or during renovations	\$ 470,000
Purchase and install a backup generator to ensure continuous power supply during outages	\$ 500,000
Total Project Cost Estimate:	\$1,649,000

This page intentionally left blank.

Foxboro Elementary School

Detailed Report

Address: 600 Morning Glory Drive, Vacaville, CA 95687

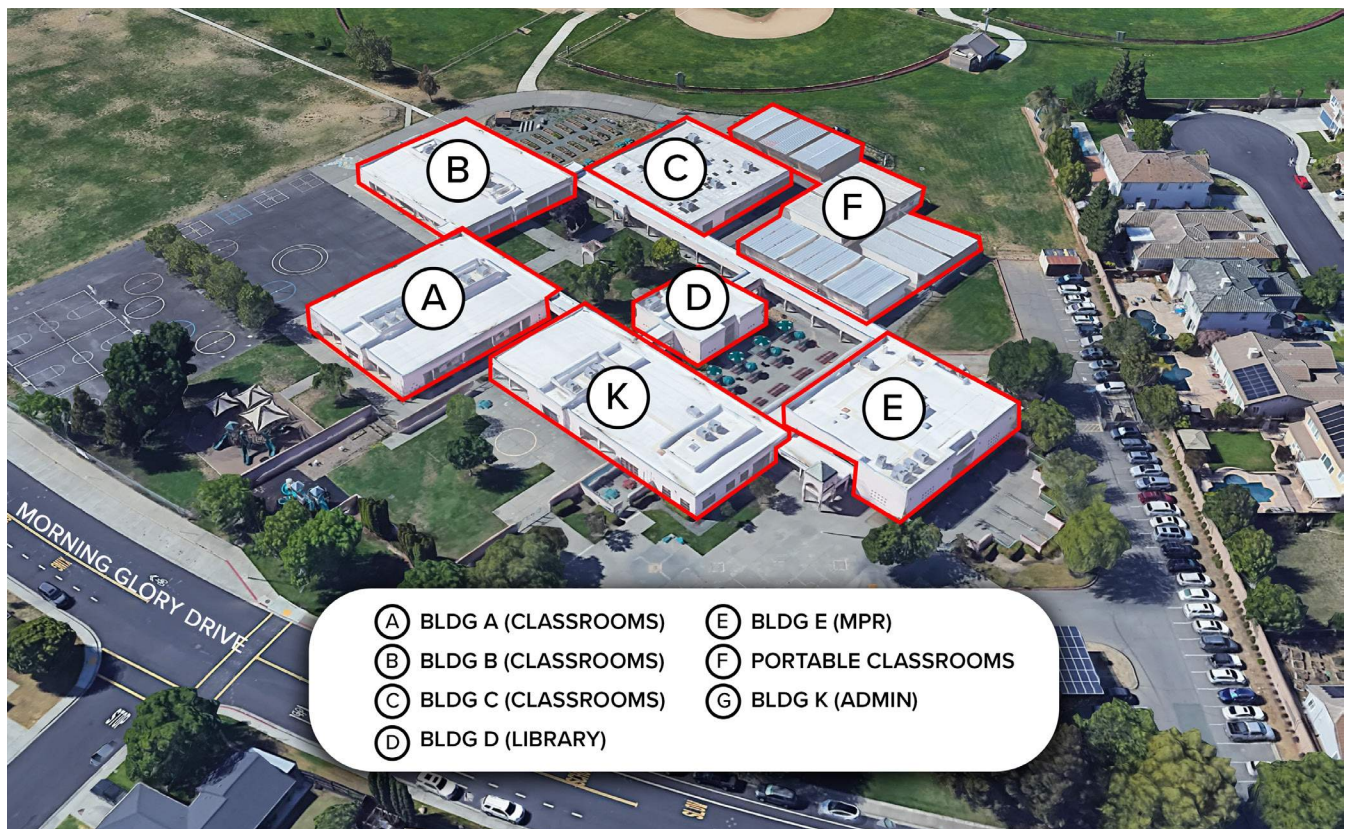
Statistics

Year Built: 1966 - 2015
Total Building Area: 49,415 SF

FCA Summary

Capital Renewal Cost: **\$7,878,184**
FCI: 0.144
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$54,628,000

Overall Campus



This page intentionally left blank.

Narratives

Architectural Systems

Foxboro Elementary School serves a student population ranging from kindergarten through sixth grade. The campus is located at 600 Morning Glory Drive in Vacaville, California and consists of six permanent single-story structures (Buildings K, A, B, C, D, and E) and 11 portable classrooms. The site also includes a garden, two playgrounds, large field, asphalt blacktop, and a parking lot with a photovoltaic shade structure.

The architectural finishes are generally in poor to fair condition. Common deficiencies were observed throughout the buildings as they were constructed around the same time and comprised of similar interior and exterior finishes. These deficiencies include wearing and weathering of stucco, gypsum board walls, and carpet flooring. The exterior stucco walls of the entire campus are recommended for repainting within the next five years.

BUILDING K (ADMINISTRATION AND KINDERGARTEN)

Building K is a 6,946-square-foot structure that was built around 1993. The building is located near the campus main entrance and includes the front office, nurse office, administrative offices, and staff lounge. The building is also connected to the kindergarten wing, which consists of three kindergarten classrooms, restrooms, and a work room.

The exterior finishes are typical and feature painted stucco and a single-ply roof. The stucco is fairly faded and has some stains. The thermoplastic polyolefin (TPO) roof is dirty, especially near the roof drains, and is also bubbling at the parapet wall and needs patches. Replacement is recommended in six years. The exterior metal doors need to be weather-stripped and some need new hardware.

The interior of the building includes tiled carpet, gypsum board walls, and lay-in acoustical ceiling tiles. The carpet in the classrooms is showing signs of wear and will need to be replaced in five years. The gypsum boards are in better condition but need small patches and paint repairs. The ceiling tiles are in bad condition with evidence of water leaks. The plastic-laminate casework is slightly dated but in good condition.

Architectural Systems

BUILDINGS A, B, AND C

Constructed around 1993, Buildings A, B, and C are classroom buildings, each 7,700-square-foot, located on the south and east portions of the site. Buildings A and B are identical buildings in both layout and structure. They consist of a concrete and metal frame structure and include six classrooms, two restrooms, a staff work room, and a central computer lab. Building C also follows this floor plan layout; however, according to drawings provided by the District, the building structure is comprised of six relocatable classrooms and framing to connect them.

The exterior finishes include painted stucco, single-ply roofing, and aluminum windows. The stucco finish is showing signs of wear and the roof is showing evidence of ponding and leaking, along with deterioration of walk pads. The parapet wall flashing also shows signs of deterioration at the joint sealants and paint finishes. According to staff, roof leaks have occurred in the past but have since been patched. It is recommended the parapet cap be repaired and areas of the roof be monitored to determine if there are any more roof leaks. Exterior metal doors are also beginning to show signs of wear and should be considered for replacement within the next few years.

The interior finishes consist of rolled carpet, painted gypsum board, fabric wall coverings, and lay-in acoustical ceiling tiles. The carpet is faded, stained, and generally in poor condition. The gypsum board and fabric walls are worn as well, and the ceiling tiles show an indication of water intrusion. Interior wood doors are also in need of repair and repainting. Overall, Buildings A through C are in fair condition, with improvements recommended in several different areas.

BUILDING D (LIBRARY)

Building D, known as the Library, is a 2,300-square-foot concrete column and metal stud building, built around 1993. The building is located at the center of the campus and is used as a library and study space.

The exterior finishes for Building D are typical for the rest of the school. The painted stucco is faded and stained, and the bitumen roof is worn and dirty. The exterior metal doors generally lack or have deteriorated weather stripping and door sweeps. Similar to Buildings A through C, the interior finishes include rolled carpet, vinyl wall coverings, and lay-in acoustical ceiling tiles. The rolled carpet is worn, the vinyl coverings are delaminating, and the ceiling grids and tiles are sagging and showing signs of water intrusion in several different areas. The casework and countertops generally appeared to be in good condition. Overall, Building D is in fair condition with the exception of several of the interior finishes.

Architectural Systems

BUILDING E (MPR)

Building E is a 6,500-square-foot concrete column and metal stud building constructed in 1993. The interior spaces consist of a kitchen, four restrooms, a stage, storage, and a multi-purpose room that is used as a cafeteria, auditorium, and recreational court.

The exterior finishes are consistent with the campus; stucco walls, single-ply roofing, and aluminum windows and doors. The stucco wall shows signs of water stains and cracking, and the single-ply roof is accumulating debris, especially near the roof drains. Additionally, the rooftop walk pads are damaged and worn, and the central fiberglass skylight is showing signs of sealant and surface deterioration. According to staff, the storefront window system leaks when it rains and when the building is power washed. Due to the age of the system and reported leaks, it is recommended the storefront and double doors be replaced within the next five years. Overall, the exterior finishes are in fair condition.

Inside the building, the finishes include sheet vinyl floors, gypsum board walls, and glue-on acoustical ceiling tiles. The sheet vinyl floors are deteriorating and blistering in several areas. The gypsum board walls are in fair condition with some noticeable scuffs. It is recommended the sheet vinyl flooring be replaced and the interior walls be repainted. Overall, the interior finishes are in fair condition.

PORTABLES

There are 11 960-square-foot portable classrooms manufactured around 1996 and located on the southwest side of campus. The exterior finishes consist of T1-11 siding, and either a metal or asphalt roof. The exterior siding shows signs of weathering and deterioration and should be repainted. The metal roofs on Portables D4 through D11 consist of metal roofs and are recommended to be recoated to protect them from the weather. The ramp surfaces are also weathered and are recommended for refinishing.

The interior finishes consist of rolled carpet, acoustical wall panels, and lay-in acoustical ceiling tiles. The carpet finishes are generally in fair condition with signs of minor wear. Some of the acoustical panels are scuffed and need repair, and the lay-in ceiling tiles are worn and slightly damaged. Replacement of the interior finishes is recommended within a six-year period.

SITE

The school site consists of a large field, garden, blacktop, two playgrounds, and a parking lot. The field is in poor to fair condition and has patches of dirt and dead grass. The garden planters have minor damage, and the surrounding concrete walkway is cracking. Some areas of the concrete walkways between buildings are heaving, creating trip hazards for students and faculty. It is recommended that these areas be remediated immediately to prevent students and faculty from tripping on the concrete.

Mechanical Systems

The mechanical systems consist primarily of packaged rooftop air conditioning units at the main building and wall mounted heat pumps serving the Library, rooftop exhaust fans serving the kitchen and multi-purpose spaces and ceiling exhaust fans serving the restroom spaces. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus include primarily Delta Controls.

The community outreach discussion identified major concerns with odors in the restrooms. Upon further inspection, most exhaust fans in the restrooms were out of order causing no circulation of air within that space. As part of mitigating the odor, we recommend exhaust fan replacement and air balancing of the exhaust systems within the restroom spaces.

Overall, the mechanical system appears to be in operational condition, with most HVAC equipment is at the end of its expected useful life in 2030.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by electric water heaters located in various janitor closets. Plumbing fixtures include floor mounted water closets, counter mounted sink, wall mounted lavatories, and wall mounted drinking fountains.

The community outreach discussion identified primary concerns with low flow drinking fountains that are generally inoperable. These low flow drinking fountains were identified at the exterior site. It is recommended to verify the water pressure at each of the outlets to confirm if the fountains are supported by the appropriate amount of flow.

In addition to the air balancing and replacement of the exhaust system, it is recommended to verify the operation of the trap primers tied to each floor drain. Proper operation of the trap ensures that a water seal is maintained to the floor drain to prevent sewer gases from escaping into the restrooms. During the assessment, we identified a restroom where both odors and dry floor drains were present.

Overall, the plumbing equipment and fixtures appear to be in operational condition.

Electrical Systems

POWER

The main switchboard is located on the exterior of Building E (MPR) and is supplied by an underground electrical service from PG&E. This switchboard is rated for 1200A at 480Y/277V, 3 phase, 4 wire. The main switchboard consists of a PG&E meter, a 1200A main fused switch, and a distribution switchboard containing fused switches. This switchboard supplies feeders to the remote 480V panelboard 'HE' in Building E building, panelboard 'HC' in Building K, and a step down transformer 'TX-S' in the electrical yard. Transformer 'TX-S' supplies a 1600A, 120/208V switchboard 'LDS' within the yard. Switchboard 'LDS' supplies electrical feeders underground to A wing, B wing, C wing, D wing, and Building D.

The large equipment in the electrical yard indicated an installation in 1992. Transformer 'TX-S' was heavily rusted and the nameplates on the equipment were illegible. The switchboards had signs of rust and dust/dirt build-up at the bottom of their enclosures.

Building A and Building B contain an electrical panelboard located within a closet at the workroom. These panelboards are original to the building. Building C has a similar main electrical panelboard in its electrical closet. This panel feeds other remote smaller panelboards located in each of the classrooms of the C wing. Building E contain panelboard 'HE' that supplies an adjacent 112.5 kva dry-type transformer. This transformer supplies a 400A, 120/208V panelboard 'LE'. Panel 'LE' in turn feeds a remote panelboard 'LKS' in the kitchen office area for the food service equipment. Building K contains panelboard 'HC' within an electrical closet. This panelboard supplies an adjacent 30 kva dry-type transformer. This transformer supplies a 100A, 120/208V panelboard 'LC'.

The electrical power distribution equipment is typically original to the buildings. The panelboards are typically surface mounted Siemens type. No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed.

The exterior electrical equipment showed signs of deterioration with rust and discoloration of the cabinets. The interior equipment has fared better in the conditioned environments. However, the expected useful life of this 1992 equipment is 30 years which would place the electrical equipment at the end of this range.

The D Wing portables were installed at multiple different times. Portables D1 through D8 were installed in the mid-1990s. There is an exterior post-mounted panelboard that appears to supply these portables. The panelboard showed signs of rust. The panel was locked and a key was not found during the survey.

Portables D9, D10, and D11 were installed in 2008. They are serviced by an exterior 75 kva dry-type transformer that supplies an adjacent distribution panel 'DB1' located in a fenced electrical yard. The transformer had signs of rust at the edges of its enclosure. The panel was locked and a key was not found during the survey.

Typically, each portable contains an interior, recessed loadcenter that distributes a small number of branch circuits for lighting, power, and HVAC. These are located within the interior, conditioned area and typically show a minor amount of dust within the covers.

Electrical Systems

The parking lot contains a solar carport structure that supplies power to the main switchboard. This system appears to have been installed within the last 10 years and appeared to be in good condition.

INTERIOR LIGHTING

The interior rooms appear to have adequate levels of lighting. Although the original fluorescent lighting fixtures are beyond their expected life, staff maintained the system by replacing lamps and/or ballasts as they failed. It is recommended that the fluorescent fixtures be replaced with LED type and modern lighting controls. We do not consider this an immediate need due to the on-site maintenance program; however, it is recommended to perform this work within a long term plan over the next five years.

Areas of the buildings that lack illuminated exit signage were observed. There were printed signs posted to direct the public. These would not be code compliant.

EXTERIOR LIGHTING

The permanent buildings contain wall-mounted LED wall packs. The lighting under the canopies are downlights. The downlights have a glass diffuser. It appeared to be lamped with screw-in style LED lamps. The parking area contains under canopy LED lighting that was installed along with the solar installation.

Fire Protection Systems

There are no fire sprinkler systems located at this campus. Portable fire extinguishers are located throughout the classrooms and appear to be regularly replaced. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a Simplex #4020 addressable main fire alarm panel located in a telecom/storage room in Building K. The panel appears to have been installed during the original early 1990s construction and is monitored by a remote company. This panel is no longer manufactured and the #4020 line ended production in the early 2000s.

The panel indicated a silenced alarm condition. The school contains smoke detectors, pull stations, and horn/strobes that appeared to be original to the construction. The fire alarm system is past its expected useful life.

Playgrounds

There are two playgrounds at Foxboro Elementary School that were inspected as part of the facility condition assessment. The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 years to help with maintenance.

PLAYGROUND 1

Playground 1 consists of a single component structure with multiple attached equipment. Based on the manufacturer information the playground was installed in 2009. The playground equipment is in generally good condition but is showing signs of age and wear and is approaching the end of its useful life. The fabric panels in the playground's shade structures are showing signs of age, wear and/or damage. There is a small hole in a plastic barrier which is large enough for a child to put their finger in, potentially causing injury. The playground surfacing is also past its useful life and is severely deteriorated throughout.

To extend the life of Playground 1 it is recommended that the fabric panels for the shade structure and the damaged plastic barrier be replaced as soon as possible. The poured in place surfacing is past its expected useful life and should be replaced as soon as possible.

PLAYGROUND 2

Playground 2 consists of a single component structure with multiple attached equipment. The equipment is showing signs of age and wear but appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). Several issues were noted during the assessment. Connecting hardware is missing from the side of the spring rocking equipment. The epoxy coating on the stairs is showing signs of wear and the metal is exposed. The loose fill-in surfacing needs to be updated and the poured in place surfacing is showing signs of wear and degradation. The play surfacing is a poured in place material that appears to be in good condition but is past its expected useful life.

Poured in place playground surfacing has an expected useful life of 10 years. To extend the life of Playground 2 it is recommended that the connecting hardware on the spring rocking equipment be replaced. The epoxy coating on the stairs should be touched up and/or the component replaced. Loose fill-in surfacing should be updated with new material regularly, ideally every two years to allow for proper coverage and depth. The poured in place surfacing is past its expected useful life and is showing signs of age, wear and deterioration and should be replaced as soon as possible.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Foxboro Elementary School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B1080	STAIRS	\$730	\$260	\$270	-	\$300	-	-
B2010	EXTERIOR WALLS	\$291,378	-	\$45,950	\$18,540	\$2,190	\$298,520	-
B2020	EXTERIOR WINDOWS	\$20,575	-	\$5,410	\$18,630	-	-	-
B2050	EXTERIOR DOORS AND GRILLES	\$40,400	\$40	-	\$28,610	\$12,770	\$7,340	-
B3010	ROOFING	\$533,882	-	\$2,020	\$4,230	-	\$334,950	\$354,880
B3040	TRAFFIC BEARING HORIZONTAL ENCLOSURES	\$25,116	-	\$12,160	-	\$17,650	-	-
B3060	HORIZONTAL OPENINGS	\$37,461	-	-	\$21,480	\$23,690	-	-
C1030	INTERIOR DOORS	\$11,129	-	\$940	-	\$12,670	-	-
C1090	INTERIOR SPECIALTIES	\$14,352	-	-	-	-	-	\$19,090
C2010	WALL FINISHES	\$42,448	-	\$6,760	\$2,820	\$41,910	-	-
C2030	FLOORING	\$404,612	-	-	\$197,430	\$164,760	\$73,480	\$61,090
C2050	CEILING FINISHES	\$283,918	\$9,650	\$186,160	\$13,200	-	\$83,800	\$44,620
D1010	VERTICAL CONVEYING SYSTEMS	\$47,840	\$51,670	-	-	-	-	-
D2010	DOMESTIC WATER DISTRIBUTION	\$27,630	-	-	\$11,680	-	-	\$23,590
D2020	SANITARY DRAINAGE	\$628	\$680	-	-	-	-	-
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	\$35,880	-	\$40,540	-	-	-	-
D3030	COOLING SYSTEMS	\$1,477,626	-	-	-	\$323,620	-	\$1,615,280

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D3060	VENTILATION	\$31,380	\$19,930	-	-	-	-	\$17,200
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$499,846	\$415,230	-	\$136,210	-	-	-
D5040	LIGHTING	\$2,107,491	-	-	-	-	\$2,697,590	-
D7050	DETECTION AND ALARM	\$893,999	\$965,520	-	-	-	-	-
E2010	FIXED FURNISHINGS	\$14,190	-	-	\$670	\$16,750	-	-
F1010	INTEGRATED CONSTRUCTION	\$99,085	-	-	-	\$30,470	-	\$98,850
F1050	SPECIAL FACILITY COMPONENTS	\$953	-	-	-	\$1,170	-	-
G2010	ROADWAYS	\$93,288	-	-	-	-	\$119,410	-
G2020	PARKING LOTS	\$308,264	\$10,530	-	-	-	-	\$397,020
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$237,477	-	\$6,620	\$5,070	-	\$20,310	\$281,220
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$290,871	\$314,140	-	-	-	-	-
G2060	SITE DEVELOPMENT	\$5,737	-	-	-	-	-	\$7,630
TOTALS		\$7,878,184	\$1,787,650	\$306,830	\$458,570	\$647,950	\$3,635,400	\$2,920,470
TOTAL (Priority 1-6 without escalation)		\$7,878,184	\$9,756,870					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Upgrade safety measures, including fencing and CCTV installation	\$ 724,000
Install more convenience outlets in classrooms to meet increased electrical demands	\$ 335,000
Conduct ADA (Americans with Disabilities Act) compliance assessment upgrades throughout the school, including ramps, handrails, door widening, and accessible restrooms	\$ 50,000
Total Project Cost Estimate:	\$1,109,000

Playground Upgrades Summary

Estimated costs for the playground upgrades were derived from the Facility Condition Assessment and safety inspection of the playground facilities.

Playground Upgrades	Project Cost Estimate
Playground 1	\$ 198,384
Playground 2	\$ 137,139
Total Project Cost Estimate:	\$ 335,523

This page intentionally left blank.

Golden West Middle School

Detailed Report

Address: 2651 De Ronde Drive, Fairfield, CA 94533

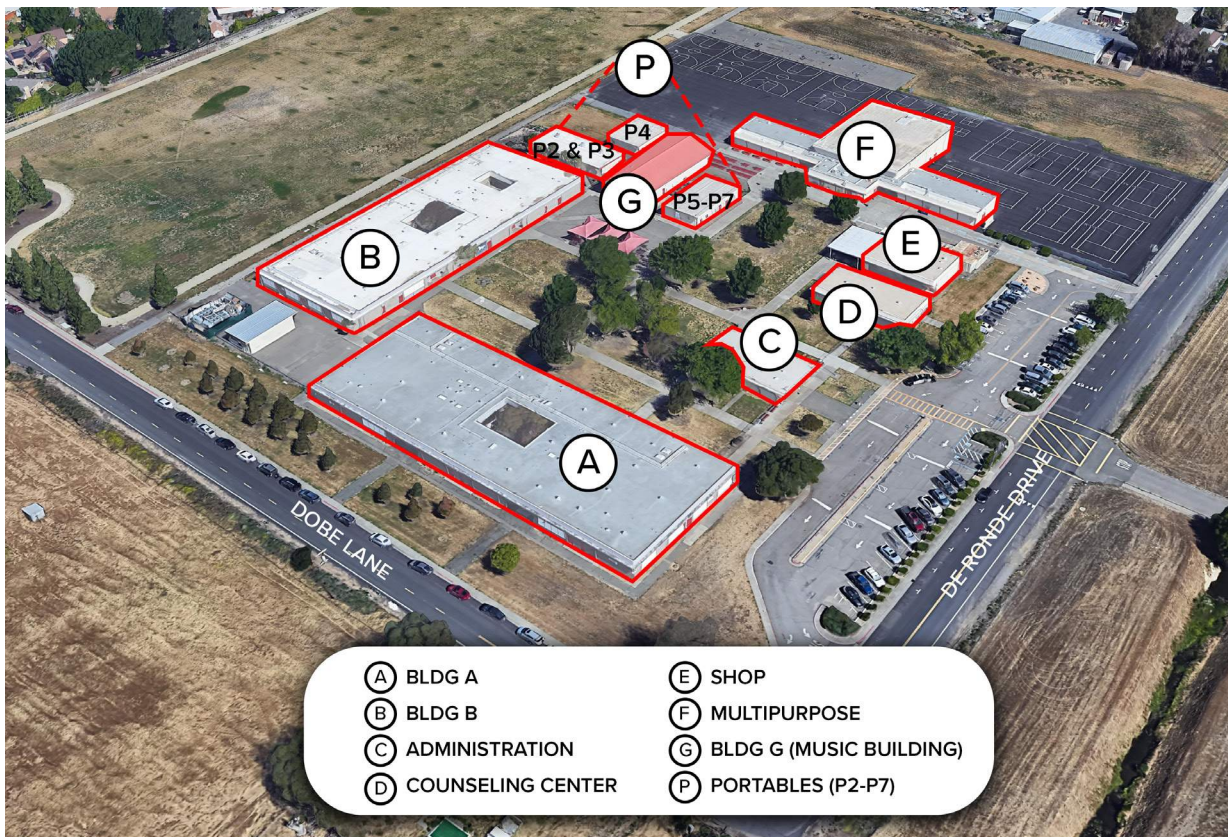
Statistics

Year Built: 1966 - 1980
Total Building Area: 88,200 SF

FCA Summary

Capital Renewal Cost: **\$12,574,951**
FCI: 0.120
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$104,744,000

Overall Campus



This page intentionally left blank.

Narratives

Architectural Systems

Golden West Middle School serves grades seven through eight. The 423,000 square foot site is located at 2561 De Ronde Dr in Fairfield, California. The school consists of seven permanent structures, and four portable classrooms with an asphalt playground bordering the north edge of the site. Landscaping and lawns surround the buildings which are accessed by way of concrete pedestrian walkways. Access to the student drop-off area and an asphalt parking lot is made from the east of campus by three vehicular driveways.

ADMINISTRATION BUILDING

Located prominently at the center of campus, the Administration Office is a 2,300 square foot concrete brick building constructed around 1966.

The exterior finishes consist of brick masonry and cement plaster, and an aluminum window system which provides visual access and daylighting. The roof is covered with layers of built up bitumen. The brick masonry appears to be in good condition with signs of slight weathering and discoloration. Plaster wall panels are in good condition with minor signs of water staining. Aluminum windows are in fair condition showing signs of rust in several locations along the frame. The bitumen roof is approaching the end of its expected useful life and shows signs of wear and blistering, which may be an indication of moisture intrusion. Both the roof and windows should be replaced within the next six years.

The interior finishes include vinyl composition tile and sealed concrete floors, gypsum board walls, and glue-on acoustical ceiling tiles. The vinyl floors are scratched with signs of wear, and the concrete slab is dirty and cracked. The gypsum board walls are in fair condition, and the ceiling tiles are chipped and worn. Ceiling and tile replacement should occur within five years.

BUILDINGS A & B

Built around 1966, Buildings A and B are 28,000 and 26,000 square feet respectively and are constructed with concrete brick. Interior programmed spaces include a library, reading rooms, and classrooms.

The exterior finishes feature brick masonry walls, plywood siding, cement plaster walls, steel windows, and an asphalt built-up roof. The brick, plywood, and plaster wall veneers are in fair to good condition with general wear and weathering observed. The steel windows are weathered and approaching the end of their useful lives and should be replaced in the next five years. The built-up roof is showing signs of aging and should be replaced in three years.

Architectural Systems

The interior finishes are vinyl composition tile and rolled carpet floors, gypsum board walls, and lay-in acoustical ceiling tiles. The vinyl tiles are moderately worn but in fair to good condition. The carpet is stained. The gypsum wall board and ceiling tiles in Building A are in fair condition, with some water staining present. It is undermined where the source of the water originates, but given the condition of the roofing material, it is possible roof leaks may be contributing. The plastic laminate casework is in poor to fair condition and should be replaced. The majority of vinyl wall base is in poor condition needing replacement with chipping and cracking occurring throughout. Most of the wood doors need re-painting or refurbishment and new hardware, which should occur in the next five years.

COUNSELING CENTER

The Counseling Center is a concrete brick office. It was built around 1966 at 2,300 square feet. It is located on the east side of campus near the parking lot and Administration Office.

The exterior of the building is comprised of brick masonry and cement plaster siding. The bricks are dirty and stained with small chips. The plaster is similarly scuffed. The exterior metal doors are in decent condition, and the aluminum windows are in poor condition and need to be replaced. Siding touch ups and window replacement should occur in five to six years.

The interior finishes include vinyl composition tile and rolled carpet floors, painted brick walls, and a lay-in acoustical ceiling. Both the vinyl and carpet floors are stained and in poor condition. The brick walls are in poor to fair condition with some minor stains, and the ceiling tiles are worn. Floor and ceiling replacement should be considered in six years.

MULTIPURPOSE BUILDING

The Multipurpose Building is a 16,400 square foot building, constructed around 1966 and is home to a gym, locker rooms, kitchen, and multipurpose room.

The exterior finishes include brick and cement plaster walls, a wood fascia, a built-up bitumen roof. The bricks and plaster are intact but are faded and very scuffed. The wood fascia around the perimeter of the building has chipped paint. The ceramic tiles near the water fountains are missing or damaged. Most exterior metal doors need to be weather-stripped. The bitumen roof over the gymnasium and locker rooms need to be replaced within five years.

The interior finishes feature vinyl composition tile floors, hardwood floors, plaster walls, gypsum board walls and ceilings, and glue-on acoustical ceiling tiles. The vinyl floors are worn and beginning to delaminate. The hardwood floors need to be refurbished. The plaster walls and gypsum wall board need to be patched and painted. The ceiling tiles are stained and discolored and should be replaced within six years.

Architectural Systems

MUSIC BUILDING G

The 3,800-square-foot Music Building is home to a band room and practice rooms. It was constructed around 2002. No deficiencies were observed.

PORTABLES P1 – P7

The portable classrooms at Golden West are of varying sizes and ages built between 1967 and 1980. None of the portables have plumbing.

The exterior finishes consist of wood board siding, a wood fascia, and a bitumen roof. The wood siding at the rear of P4 and P5-7 shows signs of warping and deterioration, and needs replacement. Both buildings, including facias should be repainted. Most ramps and handrails need to be refinished. All portable bitumen roofs are approaching the end of their useful lives and should be scheduled for replacement within five years.

The interior finishes feature sheet vinyl flooring, gypsum wallboard, plastic laminate countertops, and lay-in acoustical ceiling tiles. The sheet vinyl flooring is worn throughout all portables. The gypsum board walls are in good condition, with some patching and re-painted in areas. The plastic laminate countertops will need to be replaced within five years. Lay-in ceiling tiles are in poor to fair condition with signs of water leaks.

SHOP

The Shop is a 2,300-square-foot concrete brick building constructed around 1967. It is in the northeast corner of the site, just above the Counseling Center. The metal doors are in poor to fair condition and should be considered for replacement in five years. No other deficiencies were observed.

SITE

The site consists of an asphalt parking lot and blacktop, an athletic playground, and concrete walkways and lawns forming a grid.

Throughout the site, the concrete walkways are cracked and stained. The asphalt parking lot on De Ronde Drive is raveling, uneven, and has weed growth. The asphalt walkways near buildings A and B are in similar condition. To the north of the site, the asphalt blacktop and courts are cracked, and the striping is faded. The associated basketball hoops are deteriorated. North of the courts, the playground rubber coating and its metal equipment are worn. At the portable classrooms, the metal handrails are deteriorated and should be replaced. In general, the site finishes are in poor condition. Concrete and asphalt replacement, and parking lot regrading should occur within five years.

Mechanical Systems

The mechanical systems consist of a centralized hydronic cooling and heating plant consisting of two gas-fired boilers with associated heating hot water pumps and two air-cooled chillers with associated chilled water pumps. The hydronic system is distributed from these plants and distributed underground to neighboring campus buildings. The hydronic system is connected to both single and multi-zone air handling units and zoned hydronic fan coils. These hydronic air handlers and fan coils act as the main source of heating and cooling at each classroom. Outside of the hydronic systems, the portables P1 - P7 are served by rooftop packaged units or wall mounted heat pumps and Music Building G is served by split system air conditioning units. Ventilation is provided by rooftop exhaust fans at the multi-purpose room and ceiling exhaust fans serving the restroom spaces. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus are Johnson Controls with Metasys.

The community outreach discussion identified concerns with the HVAC overall. Building maintenance engineering staff have confirmed that the hydronic plant and downstream systems are rapidly approaching the end of their expected useful life and are beginning to fail. It was reported that only one boiler of their duplex boiler system remains functional. Replacement of the inoperable boiler poses additional challenges due to potential asbestos in the surrounding building systems. In addition to requiring a replacement, the duplex heating hot water system has reported underground pipe leaks throughout the campus. Although, the chilled water system was not reported to have the same issues, due to its age, the system poses similar risks and should also be planned for replacement. Downstream at each multi-zone air handler, it was reported most parts and components are no longer supported by the manufacturer, posing risks of additional downtime. Reconfiguration of the multi-zone system is required due to the space limitations of the mechanical rooms. The buildings with multi-zone units also have an additional challenge with the limitations of the roof structure load not able to support any roof mounted HVAC equipment. It is recommended that these systems all be replaced, and system infrastructure be further evaluated for potential repair and refurbishment.

Due to the age of most of the HVAC units on the campus, most equipment is considered energy inefficient by today's standards, the chillers are charged with an EPA phased out refrigerant, and support is being phased out by the manufacturer. If the equipment requires any maintenance or charging of the refrigerant, significant costs to maintain the system will likely occur.

Overall, the mechanical system appears to be in operational condition, but the HVAC equipment is nearing the end of its expected useful life. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by several electric water heaters located in the multipurpose building, buildings D and E, and the Administration Building, while gas-fired water heaters serve Building B, the Portables, and the Multipurpose Building. Plumbing fixtures include floor mounted water closets, counter mounted sinks, wall mounted lavatories and wall mounted drinking fountains.

The community outreach discussion identified concerns about the inadequate quantity of restrooms to support the volume of students and faculty on the campus. Further evaluation of the projected student and staff restroom load is required to determine the fixture count needed.

Overall, the plumbing equipment and fixtures appear to be in operational condition with no major issues noted.

Electrical Systems

POWER

The campus electrical service terminates in a main switchboard that is located on the exterior next to the wood shop. The switchboard is supplied by an underground electrical service from PG&E. It is a unit substation type and is rated for 1600A at 480Y/277V, 3 phase, 4 wire. The switchboard consists of a PG&E meter, a main 1600A circuit breaker, 480Y/277V distribution switchboard, and an integral middle section for a 112.5KVA dry-type transformer to step down the voltage to feed a 3rd section 208Y/120V distribution section. The circuit breakers in both of the switchboards provide underground feeders to remote panels in the campus buildings. The main switchboard is original to the 1963 installation, is heavily rusted, and contains obsolete Cutler Hammer circuit breakers. The interior cabinets have heavy dirt, dust, and cobweb build-up. No labels indicate any servicing was ever done. The enclosure doors have failed and staff has retrofitted a steel bar to run across the front of the gear to secure it. The original equipment is far past its expected useful life.

Classroom Building A

Building A is supplied with a 225A underground feeder from the main switchboard to panel 'HA' in a mechanical/electrical room. Panel 'HA' supplies a dry-type transformer that feeds a 208Y/120V, 400A panelboard 'LA'. These two panels supply other remote panelboards in the building for the branch circuits for lighting, HVAC, and power. The panelboards are typically original to the construction and are obsolete Cutler-Hammer type.

Electrical Systems

Classroom Building B

Building B is supplied similarly to Building A. It is supplied with a 225A underground feeder from the main switchboard to panel 'HB' in a mechanical/electrical room. Panel 'HB' supplies a 112.5KVA dry-type transformer for a 208Y/120V, 400A panelboard 'LB'. These two panels supply other remote panelboards in the building for the branch circuits for lighting, HVAC, and power. The panelboards are typically original to the construction and are obsolete Cutler-Hammer type.

Music Building G

Building G was constructed in 2002 and contains a 400A, interior panel that supplies the interior branch circuits that appears to be in good condition.

Multipurpose Building

The Multipurpose Building is provided with a 400A underground service from the main switchboard to an interior, 400A, 208Y/120V, distribution switchboard "F-K". This switchboard contains obsolete molded case circuit breakers that sub-feed other remote panelboards within the building. The electrical equipment is largely original to the construction and well past its expected useful life.

Shop

The shop building is provided with a 200A underground service from the main switchboard to an interior 200A panelboard. The shop building was constructed in the late 1960s and the electrical equipment is original from that era and past its expected useful life.

Counseling Center and Administration Office

The Counseling Center and Administration Office buildings are original to the campus and each is supplied with a 200A underground service from the main switchboard to an interior panelboard. The

Electrical Systems

electrical equipment is original to the building and past its expected useful life.

Chiller Yard

The Chiller yard contains an exterior 600A, 480V, 3-phase switchboard supplied from the main switchboard that services the chiller and associated pumps. It also subfeeds a 400A, 208V, 3-phase panel, PA, through a 112.5kva dry-type transformer. This panel has underground feeders for the modular buildings. This portion of the electrical distribution system is not original to the school and was installed in the early 2000s.

No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed.

INTERIOR LIGHTING

Building A and B

Buildings A and B contain a similar style of lighting. The interior is a mixture of older surface-mounted fluorescent fixtures and modern recessed 2' x 4' direct/indirect fluorescent fixtures. Lighting controls were simple toggle switches at the entrances for multiple zones. No motion detectors were noted.

The surface mounted fluorescents are typically wraparound fixtures in long, continuous rows. The classrooms containing recessed fixtures appeared to have been renovated. The areas appeared adequately lit, however, the fluorescent lighting fixtures are beyond their expected life. Maintenance actively replaces lamps and/or ballasts as needed to maintain the system. It is recommended that fluorescent lighting be replaced with LED type with modern lighting controls within the next five years.

Multipurpose Building

The boys' and girls' locker rooms contain surface mounted vapor tight fluorescent fixtures with motion sensors and key switches. The fixtures looked in good condition. The main gym contains surface mounted 3-lamp, 2' x 4' fluorescent fixtures with key switches. These fixtures have an acrylic diffuser. The fixtures in these areas are mounted on the high ceilings and appear to be in fair condition from ground level. The high mounting height seems to protect them from damage from athletic activity.

The kitchen contains 1' x 4' surface mounted fluorescents with an opal style wraparound diffuser. Lighting levels were adequate. The style of the fixtures in this building would be consistent with the original building. While lamps and ballasts would have been replaced, the housing appears original. It is recommended that fluorescent lighting be replaced with LED type with modern lighting controls within the next one to two years.

Electrical Systems

Building G

Lighting is based on modern recessed 2' x 4' direct/indirect fluorescent fixtures. Lighting controls included motion sensors, multi-zone switching, and dimmers. Fixtures were in good condition and the area was well lit. It is recommended that the fluorescent lighting be replaced with LED type with modern lighting controls within the next five years.

Shop Building

The working shop has pendant mounted 2' x 4' fluorescent fixtures. These have the older style eggcrate diffuser and seemed original to the building. The area appeared dim which is partly due to the non-reflective walls and floors. These fixtures are far past their expected useful life and it is recommended that they be replaced with LED fixtures and controls within the next one to two years.

Counseling Center and Administration Office

The Counseling Center and Administration Office buildings are primarily based on surface mounted fluorescent fixtures. Lighting is adequate and fixtures did not appear original to the buildings. We would recommend the fluorescent lighting be replaced with LED type within the next five years.

Portables P1 - P7

Interiors are typically modern recessed 2' x 4' direct/indirect fluorescent fixtures. Areas were well lit. Several locations lack illuminated exit signs. These rooms contain printed exit signage at the doors that lead to the exterior of the school.

EXTERIOR LIGHTING

There are surface mounted fixtures under the canopies of several of the buildings. These appear original to the installation and have an exposed reflector that showed signs of rust in many locations. The fixtures have a screw in Edison style base. The light fixture looks like an incandescent A-lamp from the ground but is likely an LED equivalent.

Outside of the portables, there are more modern wall mounted LED fixtures that are aimed into the perimeter areas and these appear to be in good condition.

Fire Protection Systems

Fire sprinklers on the campus only support the stage region of the Multipurpose Building. Portable fire extinguishers are located throughout the classrooms and appear to have been regularly replaced. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a Silent Knight #IFP-1000 addressable main fire alarm panel located in a storage room in the Administration Building. The panel appears to have been installed in 2013 and is no longer manufactured. No troubles or alarms were indicated on the fire alarm panel.

There are smoke detectors, pull stations, and horn/strobes throughout the campus. The remote buildings have fire alarm power supplies to power the local horns/strobes in their respective building.

Fire Alarm systems have an expected life of 15 years. Even if the system is operating after this time, it typically becomes difficult to find replacement parts for the field devices and the electronics within the main panel. As the panel has been discontinued and is nearing its expected end of life, it is recommended that the system be replaced within the next five years.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Golden West Middle School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
A4010	STANDARD SLABS-ON-GRADE	\$1,683	-	-	-	-	-	\$2,240
B1020	ROOF CONSTRUCTION	\$3,527	-	-	-	-	\$4,510	-
B2010	EXTERIOR WALLS	\$493,826	-	-	-	-	\$632,100	-
B2020	EXTERIOR WINDOWS	\$306,176	-	-	-	\$188,300	\$195,950	-
B2050	EXTERIOR DOORS AND GRILLES	\$358,333	-	-	-	-	\$443,360	\$15,910
B3010	ROOFING	\$1,864,663	-	-	\$1,260,120	-	\$1,019,850	-
B3060	HORIZONTAL OPENINGS	\$2,331	\$1,360	-	-	-	\$1,380	-
C1010	INTERIOR PARTITIONS	\$5,534	-	-	-	-	\$7,080	-
C1030	INTERIOR DOORS	\$35,333	\$9,040	-	-	-	\$34,480	-
C2010	WALL FINISHES	\$3,487	-	-	-	-	\$4,460	-
C2030	FLOORING	\$249,011	-	-	-	-	\$307,250	\$11,910
C2050	CEILING FINISHES	\$260,545	-	-	-	\$15,010	\$316,430	\$1,480
D2010	DOMESTIC WATER DISTRIBUTION	\$113,437	-	\$51,520	\$10,480	\$10,600	\$19,010	\$47,210
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	\$2,392	-	-	-	-	\$3,060	-
D3020	HEATING SYSTEMS	\$186,576	\$201,500	-	-	-	-	-
D3030	COOLING SYSTEMS	\$1,408,947	-	\$1,170,920	\$307,180	\$29,420	\$67,360	\$47,720
D3050	FACILITY HVAC DISTRIBUTION SYSTEMS	\$1,403,393	-	\$1,520,450	\$68,320	-	-	-

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D3060	VENTILATION	\$28,704	-	-	\$33,870	-	-	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$668,969	\$657,250	-	-	-	-	\$80,330
D5040	LIGHTING	\$2,156,730	\$169,590	-	-	-	\$2,443,280	\$120,890
D7050	DETECTION AND ALARM	\$1,573,447	-	-	-	-	\$2,014,010	-
E2010	FIXED FURNISHINGS	\$53,273	-	-	-	\$1,170	\$66,960	-
G2010	ROADWAYS	\$508,826	-	-	-	\$599,330	\$21,380	\$6,470
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$724,593	\$1,120	-	-	-	\$924,830	\$1,370
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$161,217	-	-	-	-	\$206,370	-
TOTALS		\$12,574,951	\$1,039,860	\$2,742,890	\$1,679,970	\$843,830	\$8,733,110	\$335,530
TOTAL (Priority 1-6 without escalation)		\$12,574,951	\$15,375,190					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Install security fencing around the school perimeter to enhance safety and security	\$ 425,000
Upgrade the existing intercom and public announcement system to improve communication within the school	\$ 485,000
Install additional electrical outlets in classrooms and common areas to meet increased power demands	\$ 855,000
Construct a new gymnasium to address the need for additional athletic and recreational space	\$ 4,900,000
Total Project Cost Estimate:	\$6,665,000

This page intentionally left blank.

Scandia Elementary School

Detailed Report

Address: 100 Broadway Street, Travis Air Force Base, CA 94535

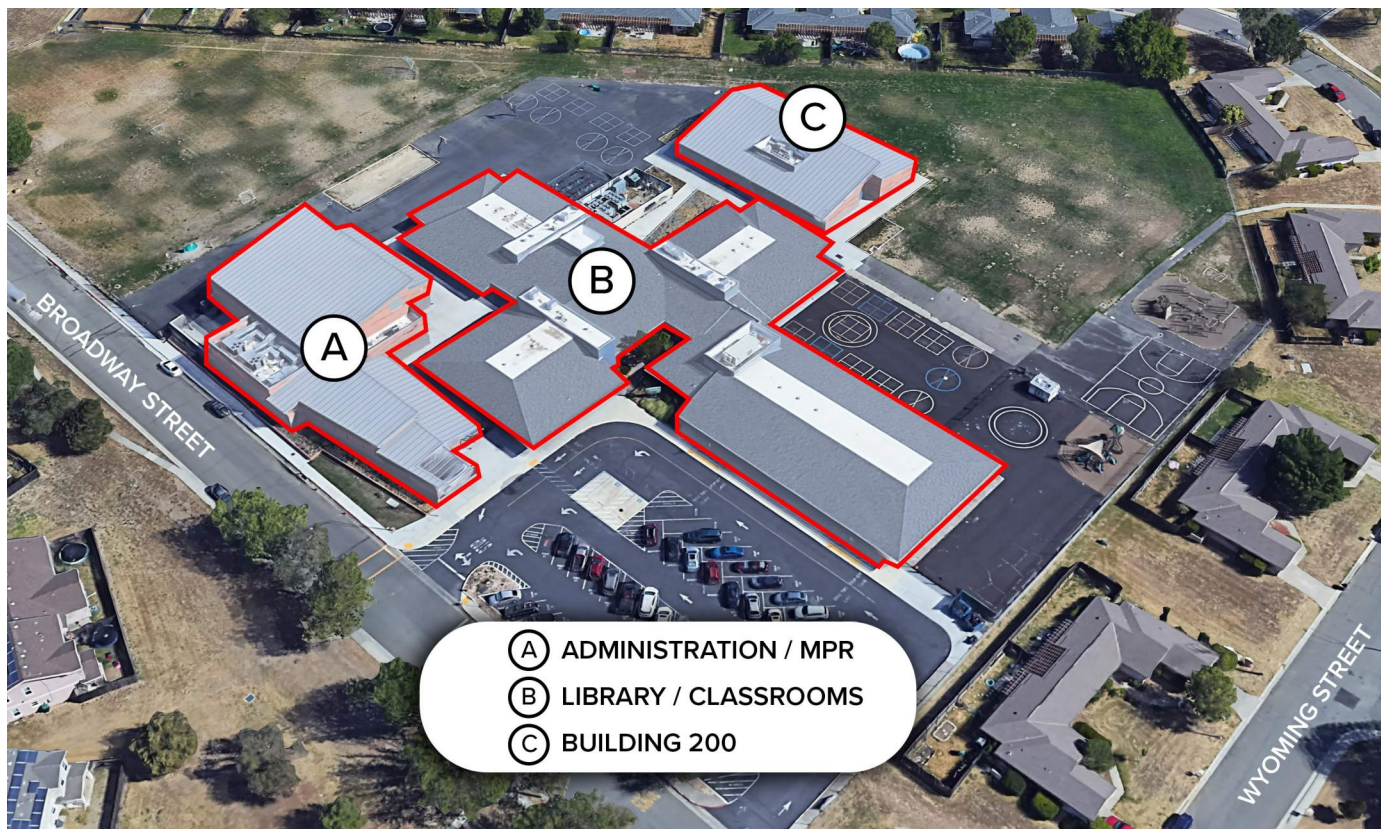
Statistics

Year Built: 1970 - 2019
Total Building Area: 55,846 SF

FCA Summary

Overall Campus

Capital Renewal Cost: \$2,824,401
FCI: 0.041
Condition Score: B
Condition Rating: Fair
Replacement Cost: \$68,871,000



This page intentionally left blank.

Narratives

Architectural Systems

Scandia Elementary School is located at 100 Broadway Street, on Travis Air Force Base. The school serves the kindergarten through sixth grade student population and is comprised of an Administration/Multipurpose building, Library/Classroom building, classroom Building 200, a parking lot, two playgrounds, an asphalt play area, and landscaping. The site was originally established in 1970 but has undergone major improvements including renovations and additions to the campus that began in 2017. The site improvements consisted of remodeling the existing Library/Classroom building, constructing a new Administration/Multipurpose building, a new classroom building (Building 200), and sitework / playground addition on the west side of the campus. Due to the recent renovations of the existing buildings and age of the newer buildings, the architectural finishes are generally in good condition.

ADMINISTRATION/MULTIPURPOSE

The Administration/Multipurpose building is a single story, 13,000-square-foot concrete masonry building constructed in 2019. The interior spaces include a basketball court, kitchen, stage, administrative offices, lobby, conference rooms, and restrooms.

The exterior of the building consists of concrete masonry units, standing-seam metal roofing, and single-ply roofing where the roof mechanical equipment is located. The concrete masonry exterior and metal roof appear to be in good condition. Areas of ponding were observed on the single-ply roofs near the mechanical units; however, there were no signs or reports of leaking. Most of the exterior metal doors are in good condition but should be provided with new weatherstripping.

The interior finishes include sheet vinyl flooring, tiled carpet, sealed concrete, concrete masonry unit (CMU) walls, gypsum board walls, and lay-in acoustical ceiling tiles. The sheet vinyl flooring in the kitchen is in good condition, and vinyl composition tile (VCT) in the main entrance has signs of wear. The carpet tiles in the offices and conference rooms show minor signs of wear and the sealed concrete in the administration corridor has minor cracks. The lay-in acoustical ceiling tiles are in good condition as are most of the other interior finishes.

Architectural Systems

BUILDING 200

Building 200 is a new 9,300-square-foot concrete masonry building constructed in 2019 that includes six classrooms with sinks, storage, and multi-occupant restrooms.

The exterior of the building is similar to the Administration/Multipurpose building and consists of concrete masonry bricks, standing-seam metal roofing, and single-ply roofing. The exterior finishes are in good condition; however, ponding occurs on the single-ply roof that has resulted in algae growth near the roof drains. Cleaning of the roof drains is recommended within the next five years.

The interior of the building is comprised of carpet tile floors, gypsum board walls, wooden doors, and lay-in acoustical ceiling tiles. The interior finishes are in good condition with no visible deficiencies with exception of some interior walls needing new paint.

LIBRARY/CLASSROOMS

The Library/Classrooms building is a 33,500-square-foot brick building originally constructed in 1970 and renovated in 2019. The renovation included improvements to the library, new amenities throughout the structure, and the addition of walls to large classrooms to shrink class sizes.

The exterior finishes consist of brick masonry walls, asphalt composition shingle roofing, and single-ply roofing where the mechanical units are installed. The 2019 renovation included replacement of both roof types. The window film is also chipped and peeling in some areas. The metal doors were observed to be in fair condition but are recommended to be provided with new weather-stripping and thresholds.

The interior finishes include carpet tiles, wood doors, and gypsum board walls and ceilings, and lay-in acoustical tile ceilings in the classrooms. Overall, the exterior and interior finishes are in good condition.

SITE

The site contains two playgrounds, two asphalt blacktops, one parking lot, and a large field. The south playground is in good condition, and the north playground is in need of repair.

The parking lot is on the south end of the site and serves the Library/Classrooms building as well as the Administration/Multipurpose building. All parking spaces are reserved, and there is a bus and car drop off lane. The asphalt pavement shows signs of significant weathering and deterioration but has been refinished in some areas. The stall and crosswalk striping are faded in some areas.

The east asphalt blacktop has nine “four square” courts, five tetherball courts, and one basketball court. The pavement has large cracks with some weeds growing through, and the paint on the basketball court is deteriorating. Refinishing is recommended within a six-year period.

The west asphalt blacktop has four “four square” courts, four tetherball courts, and one basketball court. It is in worse condition than the other blacktop, with frequent cracks and damage. There is no paint outlining the basketball court.

Mechanical Systems

The mechanical systems consist of a central hydronic heating hot water and chilled water system provided by a duplex boiler and duplex chiller system serving air handlers in the main building wings, variable refrigerant heat pumps serving Building 200, single zone split system air conditioning units, rooftop mounted air conditioning units on the Administration/Multipurpose building, and rooftop ventilator fans serving restroom and kitchen spaces. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus include both Johnson and Delta Controls.

During the facility condition assessment, a life safety concern was observed due to the location of a split system wall mounted fan coil located within the first floor electrical room in the Administration/Multipurpose building. The fan coil and condensate drain line are located above active electrical panels. If the condensate piping is compromised, the liquid could drain onto electrical equipment. It is recommended to either relocate the system or provide an additional drip tray to prevent this event from occurring.

The community outreach discussion identified concerns with the HVAC system. Although the HVAC system in general is newer and more efficient than neighboring campuses, they reported the most frequent unplanned shutdowns. The building maintenance engineering staff have confirmed issues of frequent shutdown primarily due to both the Delta and Johnson control systems. Frequent error codes related to the fire alarm shutdown cause the system to shut off completely. Once the system shuts down, the only way to restart the system is for the building maintenance engineering staff to climb the roof to the unit and manually restart the system. To prevent these issues from happening and the maintenance engineers from responding to emergency calls, we recommend the control system be recommissioned to prevent these frequent error codes from triggering and to allow remote restart capability.

Outside of the control issues, it was observed that Building 200 was over pressurized when the HVAC system was online. This over pressurization makes it difficult to secure each classroom door and puts the building at a security risk. To prevent this issue, it is recommended that a test and air balance professional balance the building air pressure within the building to allow doors to passively close shut.

At the Administration/Multipurpose building rooftop, it was observed that the packaged HVAC units and Variable Refrigerant Flow (VRF) units condense significantly and cause water ponding on the roof. This ponding puts the roof coating and seals at risk for a water intrusion event. To prevent the further risk of water intrusion, it is recommended that a clear drainage path for the condensate drain be confirmed to prevent further ponding.

Overall, the mechanical system appears to be in operational condition, however, the hydronic plant at both the heating hot water and chilled water requires replacement as it is nearing the end of its expected useful life. Replacement of the boilers, chillers, and hydronic pumps will prevent significant costs to maintain a system past its useful life and will also improve energy efficiency.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by an electric water heater located at the main building. Plumbing fixtures include floor mounted water closets, counter mounted sinks, wall mounted lavatories and wall mounted drinking fountains. A site pump was observed at the chiller yard.

The community outreach discussion identified concerns about toilets backing up and flushing issues. The facility maintenance staff confirms that these issues occur regularly due to the usage of sanitary 'flushable' wet wipes. These wet wipes do not dissolve as quickly as toilet paper creating blockage in the sewer line. Outside of the issues with sanitary wipes, the maintenance staff has not identified any significant regular issues with toilets backing up or flushing. To prevent this issue, it is recommended to stop the use of flushable sanitary wet wipes.

Overall, the plumbing equipment and fixtures appear to be in operational condition with no major issues noted.

Electrical Systems

POWER

Originally constructed in the 1970s, Scandia Elementary School underwent a major modernization project in 2019 which added the Administration/Multipurpose building and Building 200. In addition, the electrical was renovated in the original Library/Classrooms building. This renovation included replacing the power equipment, lighting, devices, wiring, and fire alarm. As a result, much of the campus electrical distribution equipment is in very good condition and can be expected to function for several more decades and beyond the maximum 10-year timeline of this assessment.

The electrical service terminates in a main exterior switchboard located in the central plant mechanical yard. that is supplied by underground service from PG&E. This switchboard is rated for 1600A at 480/277V, 3 phase, 4 wire and contains a PG&E meter, main disconnect switch, and distribution circuit breakers for the mechanical equipment in the yard. The main switchboard is a Square D QED style that supplies underground feeders to the three main buildings. There was slight dirt build-up in the base of the equipment but no signs of rust or degradation.

Electrical Systems

Administration/Multipurpose

The main switchboard supplies an underground feeder to an electrical room in the building that terminates in an 800A, 280/277V, distribution switchboard 'DB1'. This subfeeds panels for the lighting and mechanical circuit and also supplies a 112.5KVA dry-type transformer that in turn feeds a 400A, 208/120V, panelboard 'DB1A'. The switchboard subfeeds remote panelboards in the multipurpose room kitchen, and administration area for the branch circuits at the lower voltage. The equipment looked to be in very good condition and no signs of wear were noted. There are labels indicating dates of testing as well as arc flash warnings.

Building 200

The main switchboard supplies Building 200 in a similar manner. An underground feeder terminates in a 400A, 480/277V, panelboard 'DB2' and subfeeds panels for the lighting and mechanical circuits. The switchboard also supplies a 75KVA dry-type transformer that in turn feeds a 225A, 208Y/120V, panelboard for the branch circuits. The electrical equipment is located in a dedicated electrical room.

Library/Classroom

The original central structure is also supplied with a feeder from the main switchboard to an interior electrical room and terminates in a 600A, 480/277V, distribution switchboard 'DB3'. This subfeeds panels for the lighting and mechanical circuits and also supplies a 112.5KVA dry-type transformer that in turn feeds a 400A, 208Y/120V, panelboard 'DB3A'. The switchboard subfeeds panelboards within the electrical room that provide the branch circuits at the lower voltage. The equipment looked to be in very good condition.

We did find some older electrical equipment in one of the mechanical rooms. These appeared original to the building, and are old Westinghouse panels with obsolete circuit breakers.

INTERIOR LIGHTING

The interior lighting in all the buildings is based on modern LED fixtures. All new lighting controls were installed during the modernization project to comply with current energy codes. These include occupancy sensors and dimmers. The controls are networked through an ethernet architecture. The interior rooms appeared well lit and visually comfortable. Edge lit exit lights are prevalent.

EXTERIOR LIGHTING

There are LED downlights mounted under canopies and wall-mounted LED fixtures that were installed under the modernization project. There are no pole-mounted fixtures in the parking lot.

The LED fixtures typically require minor maintenance and have a low lighting depreciation factor that enables them to serve for years with minimal light loss. The expected remaining life of the lighting system is beyond the ten-year timeline of this assessment.

Fire Protection Systems

The Administration/Multipurpose building and Building 200 have fire sprinklers. The main building does not have a fire sprinkler system. Portable fire extinguishers are located throughout the main classrooms and appear to be replaced regularly. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a Silent Knight #5820XL-EVS addressable main fire alarm panel with emergency voice evacuation that is located in the Administration/Multipurpose building communications room. The panel was installed along with the building in 2019. No trouble conditions were indicated on the panel annunciator.

The other buildings' fire alarm systems are linked to the main panel via underground wiring. These remote buildings have power boosters to drive their notification circuits.

This panel is no longer manufactured and the #5820XL-EVS has been superseded by the #6820-EVS. The #6820-EVS complies with current listings and can be installed as a direct replacement so that the field devices would not be impacted by the replacement. We would recommend replacing the main fire alarm panel within the next six to 10 years to maintain listings and ensure the manufacturer maintains support for the fire alarm control panel.

There are smoke detectors, heat detectors, pull stations, and horn/strobes throughout the school. These devices were installed under the 2017 modernization and looked to be in very good condition. The expected remaining life of these is beyond the 10-year timeline of this assessment.

Playgrounds

There are three playgrounds at Scandia Elementary School that were inspected as part of the facility condition assessment. The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 years to help with maintenance.

PLAYGROUND 1

Playground 1 consists of a single component structure with multiple attached equipment. Aside from showing signs of age and wear, the equipment appears to meet the requirements of the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The vertical rise of a step on the structure's stairs is beyond the recommended height for the intended age group. The climber is showing signs of age, wear, damage, and is missing a component. There were also damaged or missing shade structure fabric panels.

Poured in place playground surfacing has an expected useful life of 10 years. Based on the assumed installation date the playground will be past its expected useful life in 2029. To extend the life of Playground 1, it is recommended that the structure's stairs be replaced during the next playground maintenance cycle. The climber should also be replaced as soon as possible, along with the shade structure fabric panels.

PLAYGROUND 2

Playground 2 consists of a single component structure with attached equipment and multiple standalone pieces of equipment linked together. The equipment is showing signs of age and wear but appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). At the time of the assessment, the entire playground area was closed. Several issues were noted during the assessment. The plastic around the connecting hardware of the climbing

Playgrounds

wall is damaged creating a sharp point and edge hazard, as well as missing or loose bolts and screws. The plastic coating around the chain links on both chain climbing nets are severely cracked creating a sharp point, edge, and a pinching hazard. The plastic coating around the chain links for the upper body equipment is severely cracked creating a sharp points, edge, and a pinching hazard. The entrance and exit height of the stair requires a barrier and a stepping form is missing creating a tripping hazard due to exposed anchoring hardware. The poured in place surfacing is also showing signs of age, wear, and damage.

The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 to help with maintenance. Poured in place playground surfacing has an expected useful life of 10 years. Based on the assumed installation date the playground will be past its expected useful life in 2029. To extend the life of Playground 2 it is recommended that the following be replaced as soon as possible: the plastic climbing wall; plastic-coated chain climbing netting on both flexible climbers; the missing stepping form; poured in place surfacing; and the plastic-coated chain net in the upper body equipment. The existing handrails should also be replaced with a barrier as soon as possible.

PLAYGROUND 3

Playground 3 consists of a single component structure with attached equipment and multiple standalone pieces of equipment linked together. The equipment appears to be in generally good condition and meets the requirements in the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The stair handrails diameter was measured at approximately two inches. Per ASTM 7.2.6, the handrail diameter shall be between 0.95 and 1.55 inches. The connecting hardware for the rope climber does not pass the protrusions test. The top surface of the barrier at the first platform is too low while the upper body equipment takeoff/landing platform is too high.

The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 to help with maintenance. Poured in place playground surfacing has an expected useful life of 10 years. Based on the assumed installation date the playground will be past its expected useful life in 2029. To extend the life of Playground 3 it is recommended that the handrails be replaced as soon as possible. The hardware should be adjusted to eliminate the protrusion hazard. The height of the takeoff/landing platform should also be adjusted as soon as possible.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Scandia Elementary School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B2010	EXTERIOR WALLS	\$7,176	-	-	\$8,470	-	-	-
B2050	EXTERIOR DOORS AND GRILLES	\$28,826	\$6,460	\$6,760	\$8,430	\$11,530	-	\$490
B3010	ROOFING	\$1,443,935	-	-	\$10,310	-	-	\$1,908,810
B3020	ROOF APPURTENANCES	\$9,690	\$1,750	-	-	\$9,920	-	-
B3060	HORIZONTAL OPENINGS	\$12,224	\$12,920	-	-	-	\$340	-
C1030	INTERIOR DOORS	\$4,277	-	-	-	\$1,740	\$3,660	-
C1090	INTERIOR SPECIALTIES	\$365	\$390	-	-	-	-	-
C2010	WALL FINISHES	\$66,104	\$330	-	-	\$9,210	\$21,040	\$55,700
C2030	FLOORING	\$37,664	-	-	-	-	\$3,680	\$46,260
C2050	CEILING FINISHES	\$2,230	-	-	-	\$2,740	-	-
D2010	DOMESTIC WATER DISTRIBUTION	\$16,278	-	-	-	-	-	\$21,650
D2020	SANITARY DRAINAGE	\$1,845	\$2,000	-	-	-	-	-
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	\$24,163	-	-	-	-	-	\$32,140
D3020	HEATING SYSTEMS	\$124,384	-	\$140,550	-	-	-	-
D3030	COOLING SYSTEMS	\$530,071	-	\$475,720	-	-	-	\$145,090
D3050	FACILITY HVAC DISTRIBUTION SYSTEMS	\$84,206	-	-	-	\$103,570	-	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$44,556	\$48,120	-	-	-	-	-

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D7050	DETECTION AND ALARM	\$33,569	-	-	-	-	-	\$44,650
E2010	FIXED FURNISHINGS	\$1,520	-	-	-	-	\$1,950	-
G2020	PARKING LOTS	\$300,094	-	\$1,790	-	\$80,310	-	\$310,180
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$1,439	-	-	-	-	\$1,840	-
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$38,738	-	\$43,770	-	-	-	-
G2080	LANDSCAPING	\$11,048	\$7,750	-	\$4,570	-	-	-
TOTALS		\$2,824,401	\$79,720	\$668,590	\$31,780	\$219,020	\$32,510	\$2,564,970
TOTAL (Priority 1-6 without escalation)		\$2,824,401	\$3,596,590					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Procure and install a new PA (Public Address) and intercom system throughout the school for effective communication	\$ 310,000
Total Project Cost Estimate:	\$310,000

Playground Upgrades Summary

Estimated costs for the playground upgrades were derived from the Facility Condition Assessment and safety inspection of the playground facilities.

Playground Upgrades	Project Cost Estimate
Playground 1	\$ 12,177
Playground 2	\$ 203,571
Playground 3	\$ 12,177
Total Project Cost Estimate:	\$ 227,925

This page intentionally left blank.

Travis Education Center (TEC)

Detailed Report

Address: 2775 De Ronde Drive, Fairfield, CA 94533

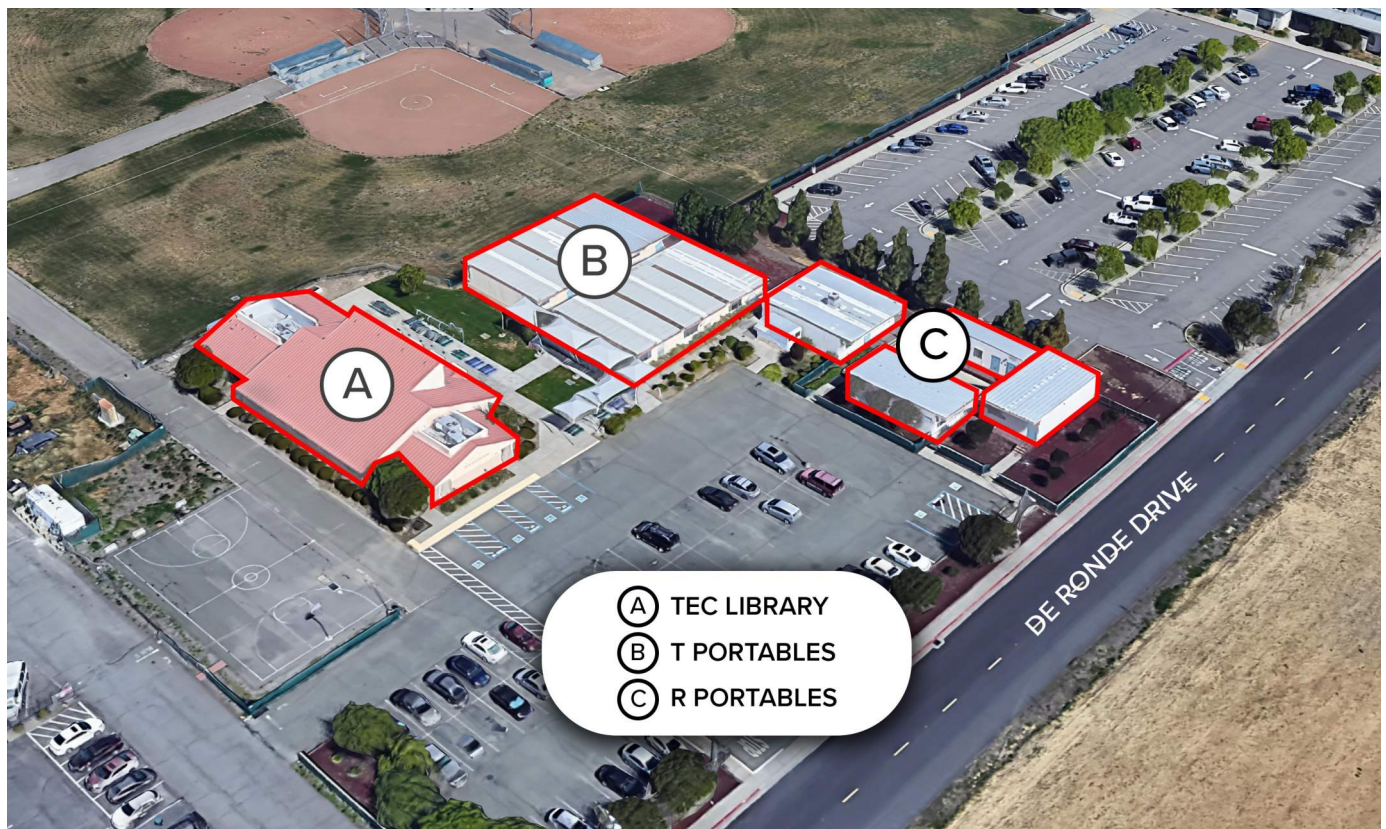
Statistics

Year Built: 2000 - 2008
Total Building Area: 15,340 SF

FCA Summary

Overall Campus

Capital Renewal Cost: \$1,948,565
FCI: 0.127
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$15,401,000



This page intentionally left blank.

Narratives

Architectural Systems

The Travis Education Center (TEC) is a public school facility serving approximately 65 to 80 students annually, consisting of mostly juniors and seniors. The site is located at 2775 De Ronde Drive in Fairfield, California, adjacent to the District Office. The school consists of the Library, Portables T1-T6, and the R Portables, which include Room 1 and Room 2, the Office and Restroom portable.

Overall, the architectural finishes are in fair condition. Most deficiencies are related to the interior carpet flooring, exterior siding, and the modified bitumen and metal roofing finishes.

TEC LIBRARY

The TEC Library is a single-story, 6,200-square-foot, wood-framed building that was constructed in 2000. The interior spaces consist of a library, meeting rooms, offices, and computer labs.

The exterior finishes consist of stucco, metal roofing, and modified-bitumen roofing where the equipment is located. The stucco appears to be in fair condition, but its paint finish is showing signs of wear. Similarly, the wood fascia has chipped and peeling paint. The metal roof appears to be in good condition with no visible deficiencies. Conversely, the modified-bitumen roof is showing signs of deterioration and is approaching the end of its useful life. The metal roof flashing is in fair condition but is recommended for repainting. Overall, the exterior finishes are in fair condition with the exception of the modified-bitumen roof, which should be replaced within the next five years.

The interior finishes include vinyl composition tile, carpet tile, acoustical wall panels, vinyl wall coverings, and lay-in acoustical ceiling tiles. The vinyl composition tile in the hallways and kitchen appears to be in fair condition. The carpeting in the classrooms and library shows signs of wear. The acoustical wall panels and vinyl wall coverings are in similar condition, with some panels showing stains. The lay-in ceiling tiles have shifted, and some show signs of water leaks. Overall, the interior finishes are in fair to good condition, with minor improvements recommended to the flooring, walls, and ceilings.

Architectural Systems

T PORTABLES

The T Portables are comprised of six, 960-square-foot, portable classroom buildings located to the northwest of the site and were installed around 2008.

The exterior of the portables consists of T1-11 siding and a metal or modified-bitumen roof. Generally, the T1-11 siding is in poor condition with cracks, chips, and accumulation of dirt. Repair or replacement is recommended for the exterior siding. All of the T Portables have modified-bitumen roofs except for T-1, which has a metal roof. The modified-bitumen roofs on T2-T6 are showing signs of deterioration and should be replaced within a five-year period. The metal roof is in fair condition but is recommended for minor repairs and recoating to prevent further damage and potential roof leaks from occurring. Additionally, the exterior ramp and walkway surfaces are weathering and are recommended for refinishing. Overall, the exterior finishes are in poor condition, with improvements recommended to the exterior wall and roofs.

The interior finishes consist primarily of carpet flooring, acoustical wall panels, and lay-in acoustical ceiling tiles. The wall panels are generally in fair condition, but the carpet flooring and lay-in acoustical ceiling tiles show signs of wear, damage, and water stains throughout the T Portables. Full replacement of the carpet and ceiling tiles is recommended within the next five years.

R PORTABLES (ROOMS 01-03, OFFICE AND RESTROOM)

Rooms 01, 02, 03, and the Office and Restroom are a cluster of four portables at 960, 1,050, 1,450, and 500 square feet respectively. Rooms 01 and 02 and the Office and Restroom were installed in 2003, while Room 03 was installed in 2007. The Office and Restroom building contains two single-occupant restrooms that serve the portable classrooms.

The exterior finishes of these buildings are comprised of metal roofing and T1-11 siding. All four metal roofs are in fair condition with no reported leaks but are recommended for repair and recoating like the T Portables to prevent leaks and further the lifespan of the roof. The wood siding and fascia have chipped paint and damage. The exterior metal doors at Room 03 and the Office and Restroom building are recommended for replacement due to weathering and rust.

The interior finishes consist of vinyl composition tile, rolled carpet, vinyl wall covering, wooden casework, and lay-in acoustical ceiling tiles. The vinyl composition tiles in Room 03 show signs of separation and damage potentially due to heaving. The tiles in the Office and Restroom are damaged and chipped in some areas as well. The sheet vinyl in the single-occupant restrooms is delaminating and bubbling, causing the floor surface to not be level and pose tripping hazards to users. The carpet is in poor to fair condition with signs of wear and the ceiling tiles are bowing, water-stained, and generally in poor condition. Overall, the interior finishes are in poor condition with the exception of the wall finishes.

SITE

The TEC site consists of concrete paved walkways, asphalt concrete (AC) paved parking lot and driveways, landscaped lawns, and steel walkways. The asphalt parking lot is in fair condition, with the exception of several large cracks that run through the lot. The south half of the parking lot containing the basketball court is in slightly worse condition and has weeds growing through some of the cracks. Spot repairs and resealing of the asphalt surfaces are recommended within the next five years.

Mechanical Systems

The mechanical systems consist of rooftop air conditioning units serving the main building and Room 3, while wall mounted heat pumps serve the remaining modular buildings including T01 through T06, Room 1 and Room 2. Ceiling exhaust fans serve the restroom spaces. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus are primarily Delta Controls.

Overall, the mechanical system appears to be in operational condition, with the HVAC equipment at the modular facilities nearing the end of its expected useful life. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by a gas-fired water heater located by the Janitor's closet of the main building. Plumbing fixtures include floor mounted water closets, counter mounted sinks, wall mounted lavatories and wall mounted drinking fountains.

Overall, the plumbing equipment and fixtures appear to be in operational condition except for consistently reported issues of sewer back up. Further investigation is required to scope the sewer line to determine if the pipe sloping is maintained.

Electrical Systems

POWER

The TEC site consists of a campus with the Central Library Building and multiple portable buildings on the north side of the site. The main education center building was completed in 2000. R Portables for a community day school were added in the northeast portion of the campus around 2003. Six portable classrooms and T Portables were added to the north side of the campus in 2008.

The main switchboard is located on the exterior of the southwest corner of the Central Library Building. It is supplied by an underground electrical service from PG&E. This switchboard is rated for 1200A at 208/120V, 3 phase, 4 wire. The main switchboard consists of a PG&E meter, a 1200A main circuit breaker, and a distribution switchboard. This switchboard supplies power to the main building and a remote distribution panel, 'DP' for the portable buildings. The switchboard has early signs of rust and some dirt build-up and wasp nests were observed within the outer enclosure. The equipment is still within its expected rated life.

The main education center contains a dedicated interior electrical room that contains two panels supplied by underground power from the main switchboard. Panel A is a two-section 400A panel and Panel B is a single 225A panel. This equipment has slight dust build-up but otherwise appears to be in good condition and is within its expected rated life.

Panel DP is located on the exterior of one of the portable buildings and is rated for 400A, 208/120V, 1 phase. The panel supplies individual feeders to the load centers located within each of the portable buildings. There is some dust build-up within the panel's weather resistance door. The gasket around the door was solid and continuous and the equipment appeared to be in fair condition.

Typically, each portable contains an interior, recessed load center that distributes a small number of branch circuits for lighting, power, and HVAC. These load centers are located within the interior conditioned area and appear to be in good condition.

No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed on the equipment.

Electrical Systems

INTERIOR LIGHTING

The main education center uses a liner, pendant mounted direct/indirect fixtures for the large open central space. The adjacent support spaces typically contain recessed direct/indirect fluorescent fixtures. There is a micro processor based lighting control panel in the electrical room and low voltage switching and motion sensors through the interiors. The interior appears well lit and the fixtures were in good condition.

Based on an expected 20 year life for a light fixture, the main building lighting would be past its expected life. However, maintenance and the interior service conditions have preserved the fixtures and there is no urgent need for replacement. We would estimate a six to 10 year remaining life. The main lighting control panel is based on low voltage relays that do require replacement over time which depends on their duty cycle and is estimated at 20 years, which would be at the end of its service life.

The six classrooms (T portables) south of the main building typically have recessed fluorescent 2' x 4' fixtures with toggle switches at the door. The interior rooms appeared well lit, although there were some fixtures that seemed to have a lamp or ballast issue and did not come to full brightness. Also, it was noted there was some yellowing of some of the diffusers which caused a slightly uneven lighting color appearance. The fixtures are within their expected life and it is recommended to replace with LED fixtures within the next five years.

The community day school R portables are based on recessed direct/indirect fluorescent fixtures. These rooms typically have multiple light switches at the doors with a low voltage dimmer switch. The lighting and color was very good in these areas. The fixtures are in good condition and we would estimate a six to 10 year remaining life.

EXTERIOR LIGHTING

The site contains a parking lot with pole mounted fixtures on concrete bases that rise several feet above the ground to protect the pole. The fixtures are assumed to have been installed with the main building. The poles appeared to be in good condition, as there are no signs of damage or significant rust. The concrete bases had scuff marks but no signs of a major vehicle impact. The heads are modern LED type. Although past their expected life based on the condition, we would estimate a minimum of five years remaining life.

Fire Protection Systems

There are no fire sprinkler systems located on this campus. Portable fire extinguishers are located throughout the classrooms and appear to be replaced on a regular basis.

Fire Alarm Systems

The building contains a Fire-Lite #MS-9200 addressable main fire alarm panel located in the electrical room in the main building education center. The panel appears to have been installed during the original construction. No trouble conditions were observed.

The main building and portables both contain a complete fire alarm system. The interiors have smoke detectors, pull stations, and horns/strobes.

Fire Alarm systems have an expected life of 15 years. Even if the system is operating after this time, it typically becomes difficult to find replacement parts for the field devices and the electronics within the main panel. Fire alarm manufacturers periodically announce new fire alarm panels to upgrade older models to provide better features and meet updated UL listings. The Fire-Lite #MS-9200 is discontinued and the line ended production in the mid 2000s. We recommend replacing the system to ensure a seamless continuation of service.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Travis Education Center (TEC) campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B1010	FLOOR CONSTRUCTION	\$19,136	-	-	\$5,650	-	\$18,370	-
B1080	STAIRS	\$3,284	\$720	-	\$2,250	-	\$910	-
B2010	EXTERIOR WALLS	\$171,028	-	\$8,110	\$5,650	\$132,400	\$18,370	\$49,310
B2020	EXTERIOR WINDOWS	\$3,831	-	-	\$4,520	-	-	-
B2050	EXTERIOR DOORS AND GRILLES	\$59,658	-	\$410	\$69,540	-	-	\$490
B2080	EXTERIOR WALL APPURTENANCES	\$1,196	\$1,290	-	-	-	-	-
B3010	ROOFING	\$219,334	-	-	\$219,300	\$41,190	-	-
B3020	ROOF APPURTENANCES	\$1,784	-	\$2,020	-	-	-	-
C1030	INTERIOR DOORS	\$7,054	-	-	\$980	\$1,470	-	\$6,690
C1090	INTERIOR SPECIALTIES	\$365	-	-	\$430	-	-	-
C2010	WALL FINISHES	\$20,920	-	-	\$13,400	-	\$12,250	-
C2030	FLOORING	\$166,771	-	\$5,470	\$47,480	-	\$23,510	\$137,420
C2050	CEILING FINISHES	\$112,586	\$45,990	\$2,520	\$3,950	\$79,230	-	-
D2010	DOMESTIC WATER DISTRIBUTION	\$11,413	\$1,690	\$11,130	-	-	-	-
D3030	COOLING SYSTEMS	\$251,160	-	\$81,090	\$155,260	-	\$30,620	\$31,810
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$72,510	-	-	-	-	-	\$96,440
D5040	LIGHTING	\$421,458	\$18,410	-	-	-	\$207,660	\$322,100

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D7050	DETECTION AND ALARM	\$268,208	\$289,660	-	-	-	-	-
E2010	FIXED FURNISHINGS	\$14,433	\$5,170	-	-	-	-	\$12,830
F1050	SPECIAL FACILITY COMPONENTS	\$851	\$920	-	-	-	-	-
G2010	ROADWAYS	\$27,853	-	-	\$32,870	-	-	-
G2020	PARKING LOTS	\$93,734	-	-	\$73,670	-	\$40,060	-
TOTALS		\$1,948,565	\$363,850	\$110,750	\$634,950	\$254,290	\$351,750	\$657,090
TOTAL (Priority 1-6 without escalation)		\$1,948,565	\$2,372,680					
			TOTAL (Priority 1-6 with escalation)					

This page intentionally left blank.

Travis Elementary School

Detailed Report

Address: 100 Fairfield Avenue, Travis Air Force Base, CA 94534

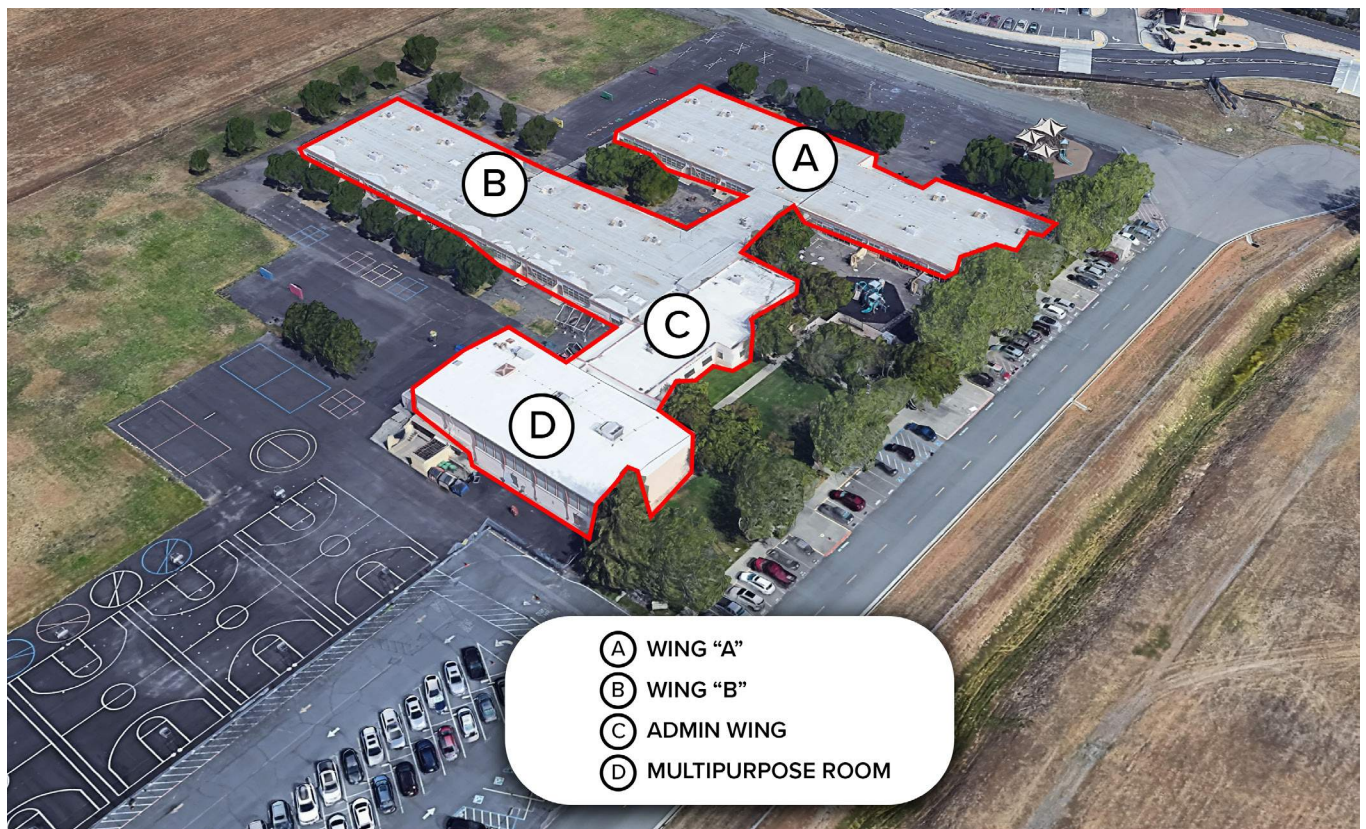
Statistics

Year Built: 1958
Total Building Area: 65,000 SF

FCA Summary

Capital Renewal Cost: \$10,186,217
FCI: 0.126
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$80,950,000

Overall Campus



This page intentionally left blank.

Narratives

Architectural Systems

Travis Elementary School is located on Travis Air Force Base, adjacent to the Visitor's Center, on 100 Hickham Avenue in Fairfield, California. The building was originally constructed in the 1950s and consists of classrooms, administration offices, a kitchen, and multipurpose room. The site is comprised of the elementary school, two playgrounds, outdoor seating areas, basketball courts, and parking lots. Generally, the architectural finishes are in poor condition, showing significant signs of wear and deterioration throughout the roof and interior spaces.

The school is a concrete and wood-frame building originally constructed as three separate classroom buildings. The school was modernized in 1983 which included the addition of an administration wing that connected the other three buildings. The building is comprised of four areas, Classroom Wing A, Classroom Wing B, Administration Wing, and the Multipurpose Room.

The exterior finishes of the structure include cement plaster, concrete masonry brick, metal windows, wood fascia, and modified-bitumen roofing. The cement plaster finish is generally faded, stained, and showing signs of wear. Areas of the concrete brick walls are also stained and weathered. Along the classrooms, the operable aluminum windows are in poor condition due to frequent leaks and difficult operability. Additionally, the wood fascia along the edge of the roof is deteriorating and indicating signs of dry rot. On the roof level, the modified-bitumen surfaces above classroom Wings A and B show signs of ponding and deterioration, especially along the perimeter of the building. Several areas throughout the roof were observed to be patched and repaired; however, due to the old age of the roof and indications of water penetration from the ceilings in the classrooms, full replacement of the roof is recommended within the next few years. Conversely, the asphalt roll roofing above the Multipurpose Room appears to be in fair condition with no signs of ponding nor leaking, likely due to the roof slope. However, due to its age, the roll roofing should be considered for replacement as well within the next 10 years.

Architectural Systems

The interior finishes consist of vinyl composition tile, sheet vinyl, carpet flooring, painted gypsum board, vinyl wall coverings, and lay-in and glue-on acoustical ceiling tiles. The interior finishes vary in condition but can generally be described as poor. In the hallways, the glue-on ceiling tiles show signs of wear and damage and should be replaced. The vinyl composition tile flooring is generally in fair condition but contain areas of separation and damage that should be repaired or replaced within a 10-year period. The wood doors that lead into the classrooms are worn and contain sticky and old hardware. The classrooms consist of carpet flooring, lay-in acoustical ceiling tiles, vinyl wall coverings, painted gypsum board, and plastic laminate casework. The finishes are generally in fair condition with exception of the ceiling tiles, which exhibit signs of bowing, dirt build up, and leaking in some areas. The carpet appears worn but in fair condition. Over a 10-year span, however, the classroom carpet will degrade over time and likely need replacement.

SITE

The Travis Elementary School site contains fields, lawns, blacktop play areas, two playgrounds, a parking lot, and street parking at the front of the school. The asphalt paved surfaces generally show signs of weathering and raveling of aggregate. It is recommended that the entire asphalt surface in the play area be provided with a new overlay to prevent further deterioration of the existing surface. Some areas of asphalt, especially near the trees, exhibit signs of heaving and structural damage and should be considered for replacement. The parking lot asphalt is in slightly worse condition than the play surfaces. Most of the concrete walkway surfaces near the front of the building are cracked or heaving, causing potential trip hazards for users of the building. It is recommended that these concrete walkways be repaired and replaced as necessary to eliminate the trip hazards currently present.

Mechanical Systems

The mechanical systems consist of primarily package rooftop HVAC units serving each classroom, split system serving the main office, air handler serving the multipurpose building, rooftop exhaust fans at the Multipurpose Room building, and ceiling exhaust fans serving as ventilation for the restroom spaces. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus include primarily Delta Controls.

The community outreach discussion identified concerns with the age of the HVAC systems as it has not been updated since the refurbishment in 1995. Building maintenance engineering staff have confirmed that primary issues with this school are the HVAC systems due to the age of the equipment. The HVAC equipment overall is past the end of its expected useful life.

Due to the age of the HVAC units on the campus, most equipment is considered energy inefficient by today's standards, are charged with an EPA phased out refrigerant, and support is being phased out by the manufacturer. If the equipment requires any maintenance or charging of the refrigerant, significant costs to maintain the system will likely occur.

Overall, the mechanical system appears to be in operational condition, however, the HVAC equipment is nearing the end of its expected useful life. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by a gas-fired water heater at the multipurpose room and electric water heater in the main building spaces. Domestic hot water only supports some plumbing fixtures. Plumbing fixtures include water closets, counter mounted sink, wall mounted lavatories and wall mounted drinking fountains.

Overall, the plumbing equipment and fixtures appear to be in operational condition, however, the electric water heaters are past their expected useful life due to age.

Electrical Systems

POWER

The elementary school was constructed and dedicated in 1958 with a major electrical upgrade that occurred in 1995. The majority of the equipment observed was installed during this modernization project.

The electrical service terminates in a main switchboard that is located on the exterior in the front of the Administration building and is supplied by an underground electrical service from PG&E. This switchboard is a unit substation type rated for 1600A at 480Y/277V, 3 phase, 4 wire. The switchboard consists of an PG&E meter, main circuit breaker, and a 480Y/277V distribution switchboard. The circuit breakers in both of the switchboards provides underground feeders to remote panels in the campus buildings. The main switchboard is original to the 1995 renovation and has signs of rust on its enclosure. Leaves and dirt have built-up in the base of the equipment.

The largest feeder from the main switchboard routes underground to an electrical room in the C-Wing and terminates onto switchboard HDP that is rated for 600A, 480/277V, 3-phase. This is the source of power for the downstream electrical equipment in the A-Wing, B-Wing, and C-Wing classrooms. The switchboard supplies power to three remote 480/277V panels for the lighting circuits in this area of the campus. The switchboard also supplies a 75KVA dry-type transformer that supplies a 300A, 208Y/120V, 3-phase panel LDP. This panel has feeders for various 208Y/120V panels located in the A-Wing, B-Wing, and C-Wing.

The electrical equipment in the A-Wing, B-wing, and C-Wing classrooms is from the 1995 renovation. The A-Wing and B-Wing contain recessed panelboards in the corridors. No signs of damage were noticed on the covers.

A second feeder from the main switchboard runs to a panel in the Multipurpose Room/Kitchen area. This panel, HC, is rated for 250A and supplies the HVAC in this area and subfeeds a 200A panel, LC1 through a 45KVA dry-type step-down transformer that is also from the 1995 renovation.

The Kitchen contains an unlabeled panel with no nameplate data that appears original to the 1950's installation and supplies the kitchen equipment. Field markings indicate a warning for a bad breaker. The breakers within the panel are obsolete molded case type.

The final feeder from the main switchboard runs to a panel, HD, in the Administration building that is rated for 100A, 480Y/277V, 3-phase. The switchboard subfeeds a 100A panel LD through a 15KVA dry-type transformer. These panels provide the circuits within the Administration building.

No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed. The original 1950s panel is far beyond its expected useful life. The equipment from the mid 1990s is approaching the end of its rated life. The equipment within the buildings is located in conditioned areas which has protected it and no significant signs of deterioration were noted.

Electrical Systems

INTERIOR LIGHTING

Interior lighting in the A-Wing, B-Wing, and C-Wing classrooms typically have recessed 2' x 4' direct/indirect fixtures. These rooms contain motion sensors, multi-level switching and dimmers. The fixtures look like they were retrofitted after the 1995 renovation and appear to be in very good condition. The classrooms were well lit.

The corridors of the A-Wing, B-Wing, and C-Wing classrooms have surface mounted fluorescent fixtures in a continuous row down the hallway. This appeared original to the 1995 renovation. Lighting levels were adequate but some of the fixtures were not operating. The lack of any natural lighting in the corridors creates a bleak institutional appearance to the corridors.

The Multipurpose Room building contains surface mounted 2' x 4' fluorescent fixtures with acrylic diffusers. The kitchen area contains surface mounted fluorescent fixtures with a wraparound diffuser. Lighting levels were adequate.

The Administration area appears to have been remodeled after the 1995 renovation. The ceilings are T-bar type with recessed 2' x 4' direct/indirect LED light fixtures. Lighting levels were good and comfortable.

Although the original fluorescent lighting fixtures are beyond their expected life, staff maintains the system by replacing the lamps and/or ballasts as they fail. We would recommend they be replaced with LED type with modern lighting controls within the next five years.

The exit signs were the illuminated type. The face of several were unevenly lit indicating some lamp failure. These appear to have been part of the 1995 renovation and are past their expected life.

At several locations the hard ceilings still have the original recessed square downlights from the original 1950's installation. These do not seem to be operational and are not needed with the newer fluorescent lights in the area. Demolishing these would require patching of the ceiling so they appear to be abandoned in place.

EXTERIOR LIGHTING

The parking area contains pole lights on concrete bollards that are LED fixtures. No significant deterioration of the poles was noticed.

Fire Protection Systems

There are no fire sprinkler systems located at this campus. Portable fire extinguishers are located throughout the classrooms and appear to be regularly replaced. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a main fire alarm panel located in the Administration building that is a FCI #7200 conventional panel. The panel contains hard wired zones for field installed manual pull stations, area smoke detectors, and duct detectors. There are horn/strobes throughout the campus for notification.

The panel appears to have been installed during the 1995 renovation and was operating normally. This panel was retired by the manufacturer in the mid 2000s and replacement parts for the electronics are no longer provided. We recommend replacing the system to ensure a seamless continuation of service.

Playgrounds

There are two playgrounds at Travis Elementary School that were inspected as part of the facility condition assessment. The expected useful life of a playground is anywhere between 15 to 20 years with weather usage, and quality of equipment affecting the actual lifespan of your playground. Updates to individual equipment is recommended every eight to 10 years to help with maintenance.

PLAYGROUND 1

Playground 1 consists of a single component structure with multiple attached equipment. The playground equipment appears to be in generally good condition but is approaching the end of its useful life. Outside of showing signs of age and wear, the equipment appears to meet the requirements of the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). A climber is showing signs of age and wear. The plastic around the connection hardware is breaking and creating sharp edges and point hazard. The poured in place surfacing is showing signs of age, wear, and damage.

Poured in place playground surfacing has an expected useful life of 10 years. To extend the life of Playground 1 it is recommended that the damaged climber be replaced during the next playground maintenance cycle. The poured in place surfacing should also be replaced as soon as possible.

PLAYGROUND 2

Playground 2 consists of a single component structure with multiple attached equipment. Per the manufacturer data plate, the playground was installed in 2009. The equipment appears to be in generally good condition but is approaching the end of its useful life. Outside of showing signs of age and wear, the equipment appears to meet the requirements of the American Society for Testing and Materials (ASTM) F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use and the Consumer Product Safety Commission Public Playground Safety Handbook (CPSC). The spiral slide entrance is damaged, and the exit is too low. The shade structure fabric panels are damaged. The poured in place surfacing is showing signs of age, wear and damage.

Poured in place playground surfacing has an expected useful life of 10 years. To extend the life of Playground 1 it is recommended that the spiral slide entrance be replaced and the exit adjusted so that it is at least seven inches above the play surface. The shade structure fabric panels and the poured in place surface should also be replaced.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Travis Elementary School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B1080	STAIRS	\$3,345	-	-	\$2,250	\$1,770	-	-
B2010	EXTERIOR WALLS	\$87,065	-	-	\$94,270	-	\$9,180	-
B2020	EXTERIOR WINDOWS	\$1,034,295	\$992,010	-	\$28,230	-	\$117,570	-
B2050	EXTERIOR DOORS AND GRILLES	\$57,813	-	\$4,050	\$25,400	\$9,220	\$24,910	\$7,630
B3010	ROOFING	\$513,083	-	-	-	-	\$375,060	\$292,680
B3060	HORIZONTAL OPENINGS	\$264	-	-	-	\$320	-	-
C1030	INTERIOR DOORS	\$47,941	-	-	-	\$53,830	\$5,350	-
C2010	WALL FINISHES	\$151,770	-	-	\$6,220	\$91,930	\$91,840	-
C2030	FLOORING	\$439,357	-	\$1,010	\$60,850	\$7,440	\$261,700	\$234,610
C2050	CEILING FINISHES	\$335,630	-	\$5,450	\$96,340	\$15,130	\$28,620	\$285,300
D2010	DOMESTIC WATER DISTRIBUTION	\$23,433	\$5,340	-	-	-	-	\$24,590
D3030	COOLING SYSTEMS	\$1,400,332	-	\$1,540,660	-	\$45,380	-	-
D3050	FACILITY HVAC DISTRIBUTION SYSTEMS	\$53,820	-	\$60,820	-	-	-	-
D3060	VENTILATION	\$49,036	\$12,920	-	-	\$45,600	-	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$329,994	\$14,930	-	\$373,050	-	-	-
D5040	LIGHTING	\$1,092,676	\$4,670	-	-	-	\$1,393,100	-
D7050	DETECTION AND ALARM	\$1,162,206	\$1,255,180	-	-	-	-	-

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
E2010	FIXED FURNISHINGS	\$34,502	-	-	-	\$14,710	\$28,860	-
F1050	SPECIAL FACILITY COMPONENTS	\$465,183	-	-	\$79,030	-	-	\$529,620
G2010	ROADWAYS	\$2,596,127	-	-	\$1,018,490	\$76,800	\$2,138,330	-
G2020	PARKING LOTS	\$7,885	-	-	-	\$9,700	-	-
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$66,388	\$6,450	\$13,630	\$1,150	\$28,250	-	\$32,460
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$199,570	-	\$95,750	-	\$17,670	-	\$133,620
G2060	SITE DEVELOPMENT	\$4,602	-	-	-	-	\$5,890	-
G4050	SITE LIGHTING	\$29,900	-	-	-	-	\$38,270	-
TOTALS		\$10,186,217	\$2,291,500	\$1,721,370	\$1,785,280	\$417,750	\$4,518,680	\$1,540,510
TOTAL (Priority 1-6 without escalation)		\$10,186,217	\$12,275,090					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Conduct a comprehensive assessment to determine whether a mobile kitchen trailer or a permanent kitchen expansion is needed based on current demand	\$ 70,000
Install a security vestibule to separate the classrooms from the office area, addressing safety concerns	\$ 560,000
Expand the restrooms in the administrative area to meet capacity needs	\$ 1,200,000
Install water bottle filler stations to promote hydration and reduce single-use plastic bottle waste	\$ 50,000
Install skylights in the corridors of classroom wings to enhance natural lighting	\$ 110,000
Evaluate the need for separation between the Multi-Purpose Room (MPR) and the cafeteria, and implement it as required	\$ 140,000
Expand the parking facilities to accommodate increased parking demand	\$ 370,000
Expand the available space for extracurricular activities and programs	\$ 3,100,000
Install shade structures in lunch areas to provide sun protection for students and staff	\$ 323,000
Total Project Cost Estimate:	\$5,923,000

Playground Upgrades Summary

Estimated costs for the playground upgrades were derived from the Facility Condition Assessment and safety inspection of the playground facilities.

Playground Upgrades	Project Cost Estimate
Playground 1	\$ 8,118
Playground 2	\$ 123,663
Total Project Cost Estimate:	\$ 131,781

This page intentionally left blank.

Vanden High School

Detailed Report

Address: 2951 Markeley Lane, Fairfield, CA 94533

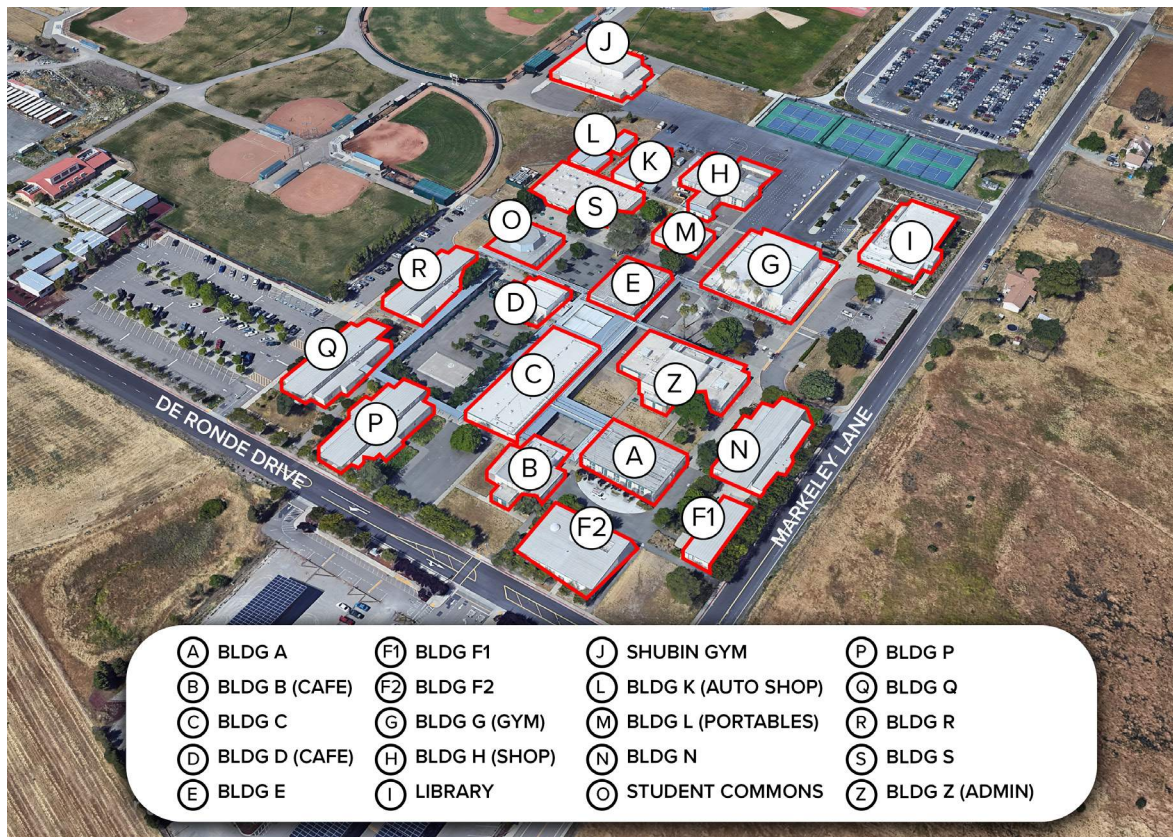
Statistics

Year Built: 1966 - 2015
Total Building Area: 164,968 SF

FCA Summary

Capital Renewal Cost: **\$28,658,129**
FCI: 0.143
Condition Score: C
Condition Rating: Poor
Replacement Cost: \$200,234,000

Overall Campus



This page intentionally left blank.

Narratives

Architectural Systems

Vanden High School serves students from ninth to twelfth grade. The high school campus is located at 2951 Markeley Lane in Fairfield, California. Vanden High School is comprised of approximately 20 permanent structures, nine portable classrooms, and several ancillary storage buildings. The campus also includes a track, baseball fields, softball fields, tennis courts, parking lots, and various walkways between each building.

Some of the classroom and cafeteria buildings are identical in construction, and some buildings share the function or use. The campus buildings consist of the following:

- Building A - 6,600 SF
- Cafeteria B - 4,600 SF
- Building C - 12,000 SF
- Building D - 4,600 SF
- Building E - 6,600 SF
- Building F1 - 29,200 SF
- Building F2 - 6,300 SF
- Building H - 5,880 SF
- H Portable Restroom - 430 SF
- Building H1 - 430 SF
- Building H2 - 660 SF
- Building H3 - 875 SF
- Building K (Auto Shop) - 3,400 SF
- Building K Restroom (Portable) - 1,050 SF
- Library - 9,800 SF
- Building M (Little Theater) - 3,872 SF
- Building N - 8,125 SF
- Building P - 8,125 SF

Architectural Systems

The condition of the architectural finishes varies by building due to several different factors: age, use, and type of construction. Overall, the architectural finishes at Vanden High School are in fair to poor condition. Typically, the original and older buildings on campus consist of finishes and materials that are in worse condition than the newer structures. Building S, for example, is an older building on campus which consists of a central workroom and twelve classrooms. The interior finishes consist of sheet vinyl flooring, acoustical ceiling tiles, and a combination of plastic laminate and wood casework. Given the age and use of the building, the interior finishes are recommended for full replacement within the next five to ten years.

During the assessment, there were several buildings which comprised of vinyl asbestos-containing flooring tiles. In some buildings, the asbestos tiles are damaged and are recommended for replacement. However, demolition of these asbestos tiles will likely cause the asbestos to enter a friable state. Before replacing the tile, investigation and testing by a qualified professional should be performed to determine the extent of asbestos abatement.

Common exterior finishes throughout the campus are stucco wall finishes, brick masonry, exposed aggregate panels, ceramic tile, metal windows, modified bitumen roof. The exterior stucco finishes generally needs to be cleaned and repainted. The exposed aggregate panels are in fair condition throughout the campus. The modified-bitumen roofs are in fair condition in some of the buildings; however, are in poor condition at Buildings A, E, H, and S due to ponding, blistering, and joint deterioration. Metal windows in several of the original classroom buildings are approaching the end of their useful lives and should be considered for full replacement. Overall, the exterior finishes each building vary in condition, but can be summarized as fair to poor.

The interior finishes within many of the buildings include vinyl composition tile floors, carpet flooring, ceramic tile, epoxy flooring, wood flooring, gypsum board walls, lay-in acoustical ceiling tiles, and glue-on acoustical ceiling tiles. The glue-on acoustical ceiling tiles in most of the buildings are showing signs of wear and shifting. The vinyl composition tiles in the classrooms and hallways show signs of deterioration and damage, even exposing the mastic below in some buildings (Building C). Given the age of the building and type of tiles used, there is potential these materials may be asbestos containing. Though replacement is recommended for the ceiling and flooring finishes, further investigation and testing will be required to determine if the materials are asbestos-containing prior to removing and replacing. Most of the painted gypsum board wall finishes in the original buildings are recommended for patching and repainting. Overall, the interior finishes each building vary in condition, but can be summarized as poor.

The site surfaces are largely comprised of AC paving, concrete walkway, and landscaping. The AC paving generally is recommended for either resealing or resurfacing within the next five to ten years to both repair and prolong the life of the AC paving. Throughout the site, the concrete walkways show signs of heaving and cracking. Improvements should be made to these areas to ensure an accessible path of travel is provided to each building and to mitigate potential trip hazards. Overall, the site is in poor condition, with recommended improvements ranging from crack repairs to full section replacements.

Mechanical Systems

The mechanical systems consist of a centralized hydronic cooling and heating plant consisting of two gas-fired boilers with associated heating hot water pumps and two air-cooled chillers with associated chilled water pumps. The hydronic system is distributed from these plants underground and on the roof to neighboring campus buildings. The hydronic system is connected to both single and multizone air handling units and zoned hydronic fan coils. These hydronic air handlers and fan coils act as the main source of heating and cooling at each classroom. Outside of the hydronic systems, there consists of a mix of packaged rooftop equipment, wall mounted portable heat pumps, split system air conditioning units, and evaporative coolers. Ventilation is provided primarily by rooftop ventilators and rooftop exhaust fans. The conditioned air is distributed to the spaces via ceiling diffusers. Controls on the campus are Johnson Controls with Metasys on older buildings and Delta Controls on the newer buildings.

The community outreach discussion identified concerns with the HVAC systems regularly failing. Building maintenance engineering staff have confirmed the issues and identified the age of the hydronic plant and hydronic units to be the primary culprit. The hydronic plant is past its expected useful life and should be replaced in coordination with the hydronic air handlers and fan coil units downstream of the plant. It was also noted that the hydronic systems have been subject to campus leaks and should be evaluated for further refurbishment or replacement of the hydronic piping.

Due to the age of most of the HVAC units on the campus, most equipment is considered energy inefficient by today's standards, are charged with an EPA phased out refrigerant, and support is being phased out by the manufacturer. If the equipment requires any maintenance or charging of the refrigerant, significant costs to maintain the system will likely occur.

Overall, the mechanical system appears to be in operational condition, but the HVAC equipment is nearing the end of its expected useful life and should be replaced. Replacement of these systems will prevent significant costs to maintain an aging system and will improve energy efficiency.

Plumbing Systems

The plumbing systems consist of domestic cold and hot water piping, sanitary waste piping, and vent piping serving the restroom spaces. The domestic hot water is provided by tankless, electric, and gas-fired water heaters. Gas-fired water heaters serve zones at the Cafeteria B, Cafeteria D, S, H, and Shubin Gym buildings. Electric water heaters serve zones at the Building C, A, E, F1, H, Little Theater, F2, and M. The tankless water heater serves Cafeteria D. Plumbing fixtures include water closets, counter mounted sink, wall mounted lavatories and wall mounted drinking fountains.

The community outreach discussion identified concerns of the age of the plumbing fixtures. More specifically, the community identified that the restrooms don't always properly flush and need flushing multiple times. Further evaluation of the sanitary sewer and water pressure is required to qualify the root cause of the need for multiple flushing. Overall, the plumbing equipment and fixtures appear to be in operational condition.

Electrical Systems

POWER

Vanden High School was originally constructed in the 1960's. There have been several additions and renovations over the decades. As a result, the campus electrical distribution equipment varies from original obsolete 1960's era equipment to post 2010's style in good condition.

Service #1

The original electrical service to the building runs underground to an exterior switchboard located south of Cafeteria D. This switchboard is rated for 1600A, 480/277V, 3-phase and appears original to the 1960's construction. It is an obsolete Square D switchboard with molded case circuit breakers that run feeders underground to the original buildings. The switchboard has significant rust at the base of the unit, is far past its expected life, and in poor condition.

Electrical Systems

Service #2

A second electrical service to the campus was installed to supply newer P Quad Buildings in 2006. The PG&E service runs underground to an exterior switchboard located off of De Ronde Drive near the P Building. This switchboard has a PG&E meter, 3P1200A main circuit breaker, and distribution molded case circuit breakers that run underground to the newer buildings. The switchboard is a modern Eaton Pow-R-Line rated for 1200A, 480Y/277V, 3-phase. There were early signs of rust on the grills and moderate dirt and cobweb build-up on the interior. The switchboard appears to be in fair condition and can be expected to perform for more than 10 years if properly maintained.

Service #3

A third electrical service to the campus was installed to supply electrical to the Library built in 2010. The PG&E service runs underground to an exterior switchboard located between the Gym and the Library. This switchboard has a PG&E meter, main switch, and distribution molded case circuit breakers for the panelboards in the Library. It is a modern Square D QED switchboard rated for 800A, 208Y/120V, 3-phase. There were no signs of rust noted but some dirt and cobweb build-up on the interior. The switchboard appears to be in fair to good condition and can be expected to perform for more than 10 years if properly maintained.

Original Building Electrical

The older buildings from the 1960's are the Classrooms Buildings A, C, M, N, Cafeteria Buildings B and D, Administration, Gyms and Shop Building H. These structures primarily retain the original electrical distribution equipment from the 1960's with the exception of a handful of all newer panels added during minor renovations. This equipment is far past its expected life.

2006 Renovation

The buildings from the 2006 addition include: Classrooms N, P, Q, R, Art Studio F1, and Band Room F2. The electrical equipment in these rooms are typically located on the interior of the buildings in dedicated, conditioned electrical rooms. This equipment appeared to be in very good condition and can be expected to perform for more than 10 years.

Electrical Systems

2010 Library

The newer library building contains an interior dedicated electrical room that is accessible from the exterior and is supplied power from Service #3. This equipment appeared to be in very good condition and can be expected to perform for more than 10 years.

No arc flash labeling or labels indicating that any electrical maintenance or testing has been performed was observed.

Renewables

The parking lot at the corner of Markeley Lane and De Ronde Drive contains a solar carport structure that consists of six separate solar arrays. The arrays have string inverters mounted on the structural columns that combine their power to a central switchboard in the parking lot. This runs underground to back feed the main switchboard for Service #2 on the other side of De Ronde Drive. The photovoltaic system appears to have been installed within the last five years and looks to be in good condition.

INTERIOR LIGHTING

Original Buildings

The lighting in the older buildings is typically based on four-foot fluorescent fixtures. Many of the classrooms have surface mounted wraparound fixtures in long, continuous rows. Some rooms have recessed 2' x 4' fluorescent troffers in hard ceilings. Lighting control consists of multi-level light switches at the entries. The use of ceiling mounted motion sensors was noted in several areas. Lighting levels appear adequate.

The fixtures appeared to be in fair condition with no obvious signs of degradation or discernment were noted on the diffusers. The fixtures did not appear original and several were upgraded during the 2006 modernization project. This project seems to have replaced lighting in certain areas and left others. The light switches in several of the older buildings were discolored and seem to be older than 2006. There is also an onsite maintenance crew that replaces component lamps, ballasts, and diffusers as needed, which makes estimating actual lifetimes difficult.

We recommend the lighting in the older buildings be replaced with LED type with modern controls including dimmers and photocells within the next five years. This would save energy and reduce maintenance needed.

Electrical Systems

New Addition Buildings

The 2006 addition buildings primarily employ pendant mounted direct/indirect fluorescent fixtures in the classrooms and central corridors. The lighting controls are typically push button dimmer type. The rooms contain ceiling mounted occupancy sensors and photocells in rooms with natural daylighting. The areas appeared to be well lit, and the direct/indirect fixtures provide a comfortable lighting environment. The fixtures were in good condition.

Based on an expected 20-year life for a light fixture, the lighting would have at least three years remaining. However, maintenance and the interior service conditions have preserved the fixtures and there is no immediate need for replacement. We would estimate a six to 10 year remaining life. The main lighting control panel is based on low voltage relays that require replacement over time along with the push button dimmer switches where worn out. This depends on their duty cycle and is estimated at 20 years and would be at the end of its service life.

New Library

The building has primarily pendant mounted fluorescent fixtures in the reading area. The lighting appeared to be in very good condition and has an estimated minimum remaining life of six to 10 years.

EXTERIOR LIGHTING

There are surface mounted four-foot fixtures under the canopies of the walkways for several of the buildings that have vandal resistant, polycarbonate housings. These appear to have been installed with the new walkway project of 2001. The fixtures seem to run 24/7 and had some discoloration on the diffusers.

The buildings also have wallpaks on their exteriors. For the original buildings some of the diffusers had discoloration from direct sunlight while the newer buildings had no signs of deterioration.

The northeast parking lot lighting containing the Solar arrays has under-canopy lighting at the corner. These appear to have been part of the carport construction within the last five years and looked to be in good condition.

The northwest parking lot contains pole-mounted lighting that were installed along with the parking lot in 2015. These fixtures have raised concrete footings to protect the poles. No signs of rust or damage was noted and they can be expected to function for more than 10 years. These fixtures were also used for the newer library parking lot.

Fire Protection Systems

Fire sprinklers only serve the R, N, P, Q, Shubin, F1, and the Library buildings. Portable fire extinguishers are located throughout the classrooms and appear to be regularly replaced. Overall, the fire protection system appears to be in operable condition.

Fire Alarm Systems

The building contains a Silent Knight #IFP-1000 addressable main fire alarm panel located in a storage room in the Administration building. The panel appears to have been installed in 2013 and is no longer manufactured. No troubles or alarms were indicated on the fire alarm panel.

There are smoke detectors, pull stations, and horn/strobes throughout the campus. The remote buildings have fire alarm power supplies to power the local horn/strobes in their respective building.

Fire Alarm systems have an expected life of 15 years. Even if the system is operating after this time, it typically becomes difficult to find replacement parts for the field devices and the electronics within the main panel. As the panel has been discontinued and is nearing its expected end of life we recommend replacing the system within the next five years.

Conclusion

Capital Improvement Project (CIP) Deficiency Cost Summary

For the Vanden High School campus, the Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart also summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
B1010	FLOOR CONSTRUCTION	\$4,054	\$1,800	-	\$2,820	-	-	-
B1020	ROOF CONSTRUCTION	\$42,428	-	-	-	\$8,700	\$45,250	-
B1080	STAIRS	\$5,747,016	\$6,200,060	-	\$2,820	\$4,710	-	-
B2010	EXTERIOR WALLS	\$613,263	\$175,870	\$45,950	\$42,120	\$119,040	\$113,290	\$251,080
B2020	EXTERIOR WINDOWS	\$321,480	-	-	\$125,310	\$264,790	-	-
B2050	EXTERIOR DOORS AND GRILLES	\$462,041	\$20,380	\$21,780	\$198,740	\$122,470	\$185,800	\$14,320
B3010	ROOFING	\$3,348,329	\$310	-	\$502,230	\$17,650	\$1,604,740	\$2,200,310
B3060	HORIZONTAL OPENINGS	\$2,858	\$2,060	\$1,080	-	-	-	-
C1010	INTERIOR PARTITIONS	\$547	-	-	\$600	-	\$50	-
C1030	INTERIOR DOORS	\$105,775	\$8,390	\$800	\$38,390	\$61,440	\$11,470	\$7,790
C1090	INTERIOR SPECIALTIES	\$206,441	-	-	\$84,680	\$10,600	\$161,360	-
C2010	WALL FINISHES	\$390,808	\$390	\$5,410	\$16,060	\$203,780	\$215,020	\$51,070
C2030	FLOORING	\$1,342,397	\$6,470	\$8,550	\$226,150	\$377,720	\$266,500	\$827,120
C2050	CEILING FINISHES	\$1,028,640	\$50,960	\$35,430	\$383,030	\$55,920	\$197,560	\$566,150
D2010	DOMESTIC WATER DISTRIBUTION	\$120,411	\$10,990	\$2,790	\$66,920	\$9,100	-	\$58,080
D3020	HEATING SYSTEMS	\$310,960	-	-	-	\$344,230	-	\$41,360
D3030	COOLING SYSTEMS	\$2,946,575	\$568,340	\$754,660	\$178,760	\$941,950	\$266,530	\$833,880

Capital Improvement Project (CIP) Deficiency Cost Summary (cont'd)

CIP DEFICIENCY COST SUMMARY								
			Construction Increase - Cumulative Escalation					
			8%	13%	18%	23%	28%	33%
Uniformat Code	Building System Class	Current Costs	Priority 1 (0-12 Months)	Priority 2 (1-2 Years)	Priority 3 (2-3 Years)	Priority 4 (3-4 Years)	Priority 5 (4-5 Years)	Priority 6 (6-10 Years)
D3050	FACILITY HVAC DISTRIBUTION SYSTEMS	\$2,103,052	-	\$1,646,680	\$254,030	\$529,580	-	-
D3060	VENTILATION	\$299,101	\$1,820	-	\$20,040	\$12,940	\$101,140	\$253,920
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	\$1,029,471	\$829,270	\$46,480	-	-	\$42,450	\$249,110
D5030	GENERAL PURPOSE ELECTRICAL POWER	\$81	\$90	-	-	-	-	-
D5040	LIGHTING	\$3,548,345	\$7,620	-	-	-	\$2,170,800	\$2,454,330
D7050	DETECTION AND ALARM	\$2,682,037	\$2,896,600	-	-	-	-	-
E2010	FIXED FURNISHINGS	\$1,172,403	\$7,750	\$3,110	\$46,000	\$29,650	\$148,650	\$1,307,730
F1050	SPECIAL FACILITY COMPONENTS	\$351,907	\$220,250	\$15,830	\$79,030	-	-	\$89,080
G2010	ROADWAYS	\$398,166	-	\$9,410	\$49,280	\$85,670	\$356,380	-
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	\$30,934	\$11,560	-	\$14,370	\$1,770	\$8,460	-
G2050	ATHLETIC, RECREATIONAL, AND PLAYFIELD AREAS	\$12,913	-	-	\$15,240	-	-	-
G2060	SITE DEVELOPMENT	\$31,826	\$610	\$7,790	-	\$6,630	\$17,380	\$7,170
G2080	LANDSCAPING	\$3,872	-	-	\$4,570	-	-	-
TOTALS		\$28,658,129	\$11,021,590	\$2,605,750	\$2,351,190	\$3,208,340	\$5,912,830	\$9,212,500
TOTAL (Priority 1-6 without escalation)		\$28,658,129	\$34,312,200					
			TOTAL (Priority 1-6 with escalation)					

Campus-wide Enhancements Summary

Campus-wide enhancements are construction projects based on community and District input. These costs are derived from preferences provided by the community.

Scope of Work	Project Cost Estimate
Enhance security with the installation of security fencing, CCTV and camera system upgrades, and alarm system improvements	\$ 2,869,000
Reconfigure drop-off area to improve traffic efficiency and pedestrian safety.	\$ 500,000
Expand and renovate the undersized kitchen facilities to meet increased demand, including updated appliances and food preparation areas	\$ 612,000
Construct a new, eight-lane, high school outdoor pool facility with accompanying fencing, bleachers, and a locker room / pool equipment building.	\$ 10,961,056
Install shading structures in outdoor areas to provide covered spaces	\$ 665,000
Expand the theater to accommodate a larger audience and improve amenities	\$ 2,360,000
Construct a new gymnasium and accompanying locker rooms to meet the demand for athletic facilities	\$ 14,280,000
Construct new stadium to accommodate sports events and spectators	\$ 25,000,000
Expand and improve the cafeteria to reduce long lines and provide a better dining experience	\$ 1,230,000
Create outdoor dining areas to provide additional places for students to eat lunch	\$ 45,000
Total Project Cost Estimate:	\$58,522,056

This page intentionally left blank.



KITCHELL

WWW.KITCHELL.COM