SONOMA COUNTY FIRE DISTRICT

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MASTER PLAN

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SHAH KAWASAKI ARCHITECTS

KITCHELL

PREPARED BY KITCHELL AND SHAH KAWASAKI ARCHITECTS

SONOMA COUNTY FIRE DISTRICT

KITCHELL

SHAH KAWASAKI ARCHITECTS

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BACKGROUND

Kitchell + Shah Kawasaki Architects (SKA) have been commissioned by the Sonoma County Fire District to develop a comprehensive Facilities Master Plan. This plan evaluates the condition of five of the District's existing fire stations and provides recommendations for their renovation. In addition, this report also includes recommendations for the replacement of fire stations 2, 4, and 9.

The following key elements form the foundation of the Master Plan:

1 Existing Conditions: Facility Condition and Operational Assessment

The Master Plan begins with a detailed Facility Condition Assessment (FCA) of five fire stations selected by the District based on need. This assessment identifies building deficiencies, outdated systems, and infrastructure challenges that impact operational efficiency. Key findings include necessary repairs, code compliance issues, and long-term sustainability concerns.

Additionally, the Operational Assessment reviews the layout, space utilization, and workflows to ensure that each station supports optimal emergency response capabilities. Key issues addressed include:

- **Accessibility Barrier Removal:** The plan identifies improvements to meet Americans with Disabilities Act (ADA) requirements, such as adding ramps, wider doorways, and accessible restrooms, ensuring the facilities are fully accessible to both personnel and the public.
- **Carcinogen and Infectious Disease Mitigation:** The assessment incorporates strategies to reduce carcinogen exposure and mitigate the risk of infectious diseases. Recommended improvements include transition zones within the facilities, dedicated decontamination areas, enhanced ventilation, and safe storage for protective gear.

2 Best Practices for Fire Station Design and Operations

These considerations ensure that the fire stations meet not only operational needs but also health, safety, and regulatory requirements.

The Master Plan incorporates best practices in fire station design based on industry standards. These best practices prioritize:

- **Operations:** Efficient layouts for apparatus bays, living quarters, training rooms, and administrative offices to optimize operational flow.
- **Sustainability:** Integration of energy-efficient systems, sustainable materials, and long-term maintenance strategies to reduce environmental impact.
- **Flexibility:** Design of adaptable spaces to accommodate future growth, gender accommodation and changing technologies.
- **Safety and Accessibility:** Ensuring that facilities meet modern fire safety standards and are fully accessible.

These principles inform the Master Plan's recommendations for the renovation or replacement of existing stations and the design of the new administration building.

EXECUTIVE SUMMARY

3 Program Requirements

Detailed program requirements have been developed for the fire stations and administration building. These include:

- **Standard Fire Station:** A template program providing space for apparatus bays, living quarters, training areas, and administrative offices, designed to meet operational needs.
- **Battalion Command Station:** A specialized template for command stations requiring additional space for emergency operations coordination, strategic planning, and community engagement.
- **Administration Building:** A template for the new administration building that outlines space requirements for offices, meeting rooms, and public-facing areas.

These templates ensure that each station and the administration building are appropriately sized to meet current and future needs.

4 Cost Estimates

Cost estimates have been developed for either renovation or replacement for each of the eight fire stations and a new administration building. The estimates include:

- Repair costs for stations that can be renovated.
- Long-term operational costs for both renovated and new facilities.
- Conceptual cost projections for the new administration building and stations requiring replacement.

These estimates, along with conceptual project schedules, will assist the Fire District in prioritizing and managing capital improvement projects.

5 Renovations and Replacement Recommendations

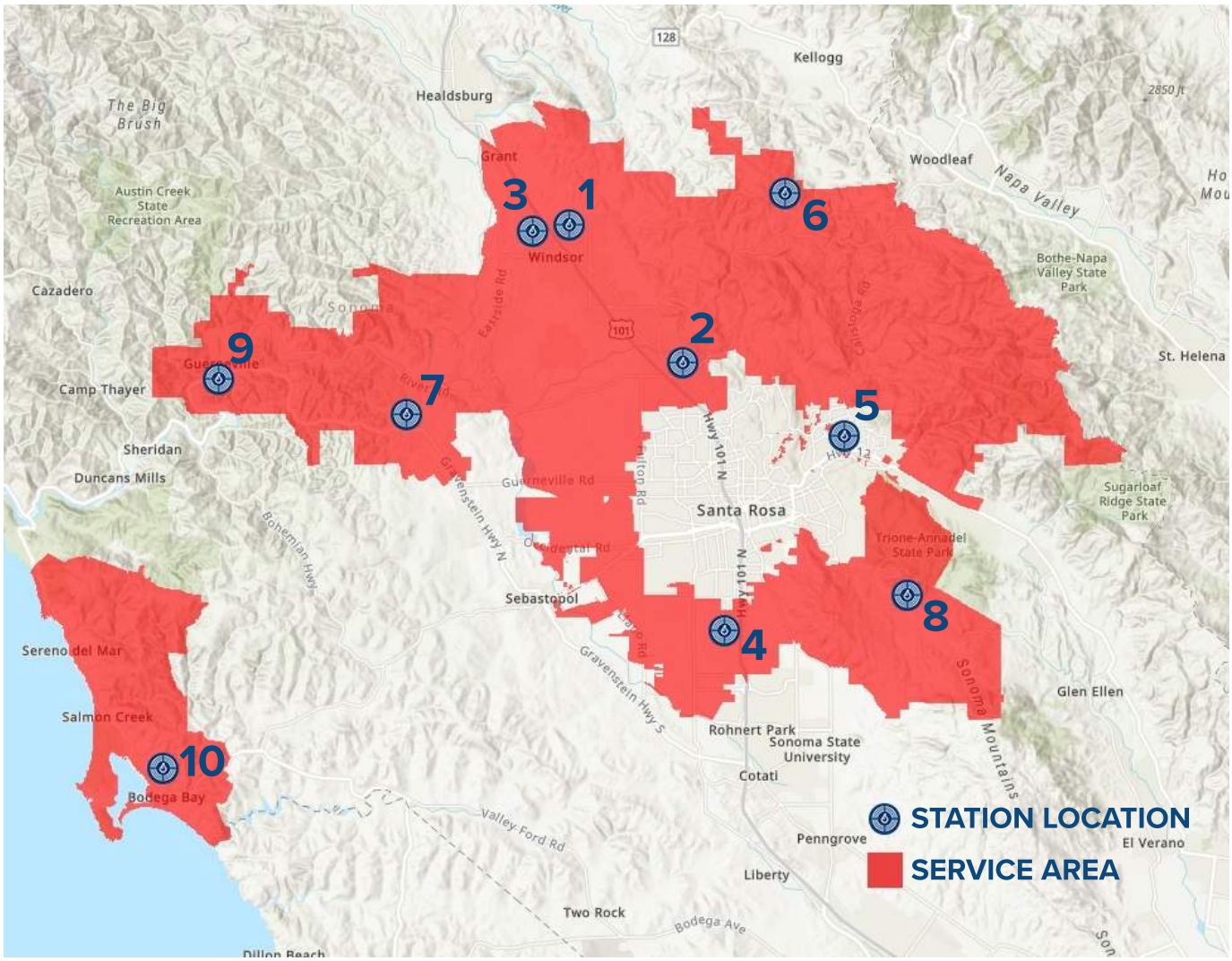
The Master Plan provides recommendations for the renovation and/or replacement of the eight existing fire stations and the development of a new administration building. Recommendations prioritize stations with critical deficiencies or those that no longer meet operational or safety standards. Renovation strategies are proposed for stations with salvageable infrastructure, while new construction is recommended for those that require extensive rebuilding. The new administration building is designed to accommodate the growing administrative needs of the Fire District.

SONOMA COUNTY FIRE DISTRICT AREA SERVICE MAP

The Sonoma County Fire District (SCFD) is a special district that provides fire protection, rescue, and emergency medical services across various communities, including Windsor, Larkfield-Wikiup, and Guerneville. Covering 160 square miles and serving 75,000 residents, it is the second busiest fire protection agency in Sonoma County. The district has evolved to meet the demands of regional fires, such as the Tubbs and Kincade fires, which highlighted the need for a coordinated approach to manage large-scale emergencies.

SCFD was officially formed in April 2019 through the consolidation of several historic fire districts, including Rincon Valley, Windsor, Bennett Valley, and Mountain Volunteer Fire Department. Since then, further consolidations have brought in the Russian River, Forestville, and Bodega Bay Fire Protection Districts, expanding the district's reach and capabilities.

The image below shows the 10 existing fire stations that serve the surrounding Sonoma County area.



2. EXISTING CONDITIONS

EXISTING CONDITIONS

INTRODUCTION

In September 2023, Sonoma County Fire District tasked Kitchell with conducting Facility Condition Assessments (FCAs) on five fire stations (1, 3, 7, 8, and 10). The aim was to identify necessary repairs, retrofits, and replacements to ensure the facilities' safety, functionality, and longevity for the next decade.

To facilitate a precise and detailed assessment, each fire station underwent 3D scanning to create accurate as-built drawings. These digital representations served as the foundation for the renovation analysis, enabling the identification of potential design challenges, space constraints, and opportunities for optimization.

Kitchell's team employed a comprehensive assessment methodology, including:

Visual Inspections: Detailed visual inspections were conducted to identify physical deficiencies and signs of deterioration.

Interviews with Maintenance Personnel: Interviews with maintenance staff provided valuable insights into operational issues, maintenance history, and potential future needs.

Document Analysis: Existing documentation, such as building plans, maintenance records, and inspection reports, was reviewed, along with the newly created 3D as-built drawings, to gain a comprehensive understanding of the facilities' history, condition, and spatial characteristics.

Based on the findings of these assessments, Kitchell developed detailed reports for each of the five fire stations, outlining the identified deficiencies, proposed corrective actions, and associated cost estimates. These reports were categorized by priority, ranging from immediate critical repairs to long-term maintenance and improvement projects.

The team also met with senior leadership and staff at each station to assess existing operational and programming needs, including apparatus access, health and safety concerns, sustainability, accessibility, and gender accommodation.

FIRE STATION 1

PHYSICAL CONDITION ASSESSMENT

ARCHITECTURAL

Sonoma County Fire District Station 1 is located at 8200 Old Redwood Highway in Windsor, California. The two-story, 17,800-square-foot station was dedicated in 1997, housing both fire station operations and administrative functions for the District. The ground level consists of a three-bay apparatus bay, nine dormitories, a training room, day room, locker room, exercise room, turnout room, shop, air and hose storage, and a kitchen. The second level consists of open administrative offices and supporting spaces.

The exterior walls and roof structure are of wood frame construction. Exterior finishes consist of brick, painted cement plaster, asphalt shingle roofing, built-up asphaltic roofing with elastomeric coating, and metal clad wood-frame insulated glazing unit windows. The walls are finished with non-load-bearing brick units on the ground floor and painted cement plaster on the second floor. The building features a decorative steel facade structure as well as tube steel canopy.

In general, the exterior wall finishes show signs of wear. The brick unit walls on the ground level display stress cracks and chips, most likely due to settlement. Furthermore, the polyurethane sealant on the exterior wall control joints is deteriorating and requires replacement. The built-up roofing also shows signs of deterioration and is recommended for replacement concurrent to the replacement of the rooftop mechanical units. The asphalt shingle roofing appears to be in good condition with no major damage observed. The plastic skylights over the apparatus bay are approaching the end of their useful life, necessitating replacement. Overall, the exterior finishes are in fair condition.

Interior finishes include epoxy-coated flooring, sealed concrete flooring, carpet flooring, ceramic

tile, painted gypsum board wall and ceiling, vinyl wall coverings, and suspended ceiling tiles. The wood doors throughout are in fair condition. The carpet flooring in the dormitories and day room is worn and has exceeded its useful life. Overall, the interior finishes are in fair condition.

MECHANICAL

Mechanical Systems

The mechanical system at Fire Station 1 is serviced by five rooftop packaged air conditioning units and one ductless split system air conditioning unit that serve the administrative spaces, living quarters and fire department spaces. Three gas unit heaters serve the apparatus bay and tool room. Two powered exhaust systems, one rooftop exhaust fan, and six ceiling exhaust fans serve the building. A Plymovent system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a central vacuum system, a shop air compressor and an air/oxygen containment fill station. The ductless split system air conditioning units, gas unit heaters, and ceiling exhaust fans are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

Plumbing Systems

The plumbing systems at Fire Station 1 are serviced by domestic cold and hot water, sanitary waste, storm drains, gas and vent piping. The domestic hot water in the living quarters and administrative spaces is serviced by one gas water heater, while the hot water in the apparatus bay is serviced by two electric water heaters. Flush valve and flush tank water closets, urinals, lavatories, sinks, showers, and drinking fountains were observed. The water heaters are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that the three-inch copper water line serving the building is not of a standard size that has fittings and replacement parts readily available. Replacement parts of this size are difficult to obtain and should be made aware of when maintenance is required for this pipe. Although redesign of this piping system is not feasible, it should be brought to the attention of the facility maintenance staff.

Fire Protection Systems

The building is fire sprinklered and portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

ELECTRICAL

Electrical Systems

Electrical service to Fire Station 1 is delivered underground from PG&E and terminates in the main switchboard in an interior dedicated electrical room. This switchboard consists of three integrated cabinets. The first cabinet contains the PG&E meter. The second has the main circuit breaker in the top section and an Automatic Transfer Switch (ATS) on the bottom section. The third section contains a distribution switchboard with circuit breakers for the remote panels and HVAC equipment. This equipment is rated for 1000A, 120/208V, three phase. All equipment is original to the 1997 installation.

The ATS is a Russelectric model 2000 that supplies standby power to the entire station. The distribution switchboard is composed of Square D (Sq D) molded case circuit breakers. The equipment is floor-mounted on a housekeeping pad. The main electrical room is conditioned, and the enclosures do not show signs of degradation despite their age.

There are several panelboards located in the fire station. These are General Electric (GE) A-series type and IEM P1B models that are original to the building. The panelboards are typically in the main electrical room or remote electrical closets. They are within protected and conditioned areas, and the enclosures seem to be in fair condition.

No equipment labels indicating records of testing or preventative maintenance were observed. Additionally, there were no arc flash warning labels installed on the panelboards. These panelboards are approximately 27 years old and nearing the end of their expected useful life. The interior and conditioned environment appears to have helped maintain the equipment. There were no reports of circuit breakers tripping or other power quality items occurring.

Standby Power

Fire Station 1 has an outdoor standby generator that is exposed to the elements and has an integral weatherproof enclosure. The generator is configured to provide power to the entire fire station upon loss of utility power.

The generator is manufactured by Caterpillar and is rated 125KW, 120/208V, 3-phase. The nameplate indicates it is original to the building. The generator control panel showed no alarm or warning conditions and showed a runtime of 477 hours. The generator is regularly tested. There was a small fire within the housing at the battery terminals that was repaired but some arcing on the interior remains. The housing has signs of rust and paint peeling. The wire management for the interior control wiring is in poor condition. The interior sound attenuation fabric is loose and torn in some areas. The generator is supplied with diesel fuel from a sub-base fuel tank. Based on age, the equipment is past its rated life and should be replaced.

The output of the generator is connected to the ATS within the main switchboard. Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. These were not present.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp surface mounted strip fixtures. The residential first floor room typically contains surface mounted 1'x4' wraparound fluorescent fixtures in the kitchen. There are downlights with open reflectors and compact fluorescent lamps at various locations. The second-floor office area typically contains 2'x2' recessed parabolic style fixtures. Most of the fluorescent lamps have been re-lamped with an LED equivalent. Lighting toggle switches are used

for control.

The station has several MicroLite model #500R lighting control panels containing low voltage relays to allow lighting circuits to be grouped and programmed into a time schedule. These panels have been discontinued and the manufacturer stopped supporting them in 2020. This panel is discontinued, and the manufacturer stopped supporting it in 2020. The staff has mentioned that they are having difficulty obtaining new relays as components fail. New lighting controls should be provided to comply with current energy code requirements.

The interior lighting is past the end of its expected life. While re-lamping to LEDs can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the interior fixtures with a pure LED based type.

The exterior lighting consists of light poles and wall mounted fixtures around the perimeter of the fire station. The wall-mounted fixtures showed no discoloration of diffusers and were in fair condition. The original lamps have been revised to an LED equivalent. The light poles are round black type with shoebox fixtures. The poles showed some dirt build up and discoloration, but no significant degradation was observed. The shoebox fixture housing appears original and has been re-lamped to an LED equivalent. Due to age, replacement of all exterior lighting with LED based fixtures is recommended.

Fire Alarm Systems

The station contains a Notifier AFP-200 model main fire alarm panel in the electrical room which appears original to the building. The control panel showed all normal conditions; however, the AFP-200 was discontinued in 2008 and spare parts will be increasingly difficult to obtain. The building contains pull stations, smoke detectors, and combination strobe/horns. The field devices appear to be original to the building.

The fire alarm system is now obsolete and past its

OPERATIONAL ASSESSMENT

expected useful life. Replacement of the aging fire alarm system is recommended.

Station 1 was constructed in 1997, after the enactment of the Essential Service Act.

The two-story Sonoma County Fire District headquarters station was formerly the Windsor Fire Districts headquarters station.

The first floor contains a lobby, a single occupancy mens public restroom, a single occupancy womens public restroom, an EOC/Training room, day room, dining room, kitchen, station office, captains office, locker room, men's multi-occupant bathroom, women's multi-occupant bathroom, eight crew dorm rooms, an officers dorm room with private bathroom, a storage room, three-bay, 70-feet deep back in apparatus bay, shop, SCBA/Hose room, turnout room, exercise room, and decon room.

The second floor contains a lobby, six private offices, a semi-private office, 11 open work stations, a large conference room, kitchen, mail room, and multi-occupant restrooms for men and women.

The primary deficiency of the station is the size of the administrative office space. The space barely accommodates the current 18 persons, however, it is anticipated that the District will continue to grow. Other deficiencies include laundry cleaning in a decon room, the turnout room being open to the apparatus bay, a kitchen that is missing a 5-foot accessible work area, and a lack of decontamination features (sinks, door mats and door seals) between apparatus bays and the house. **A summary is as follows:**

Essential Service Structure

- Complies

Operation

- Back-in acceptable
- Reasonable apparatus room circulation
- Lack of administrative space

Carcinogen and Infectious Disease

- Decon Room used for household and contaminant cleaning.
- PPE room open to Apparatus Bay.
- No decontamination between Apparatus Room and House

ADA

- Kitchen not accessible
- Laundry not accessible

Gender Accommodation

- Complies

Sustainability

- Does not meet current standards

*A summary chart comparing the existing stations against best practices is provided on Page 45 of this report.

FIRE STATION 3

PHYSICAL CONDITION ASSESSMENT

ARCHITECTURAL

Sonoma County Fire District Station 3 is located at 8600 Windsor Road in Windsor, California. The single-story, 8,500-square-foot fire station and 1,500-square-foot shop building were dedicated in 2009. Interior spaces consist of a two-bay apparatus bay, four dormitories, a kitchen, offices, day room, turnout room, fitness room, hose storage, and a clean and dirty shop.

The exterior walls are of wood-frame construction with timber columns present. The roof structure is wood frame with a steel-frame system present in the apparatus bay. Exterior finishes consist of non-load-bearing brick walls and cement wallboard. The building features metal-clad wood windows, equipped with insulated glazing units. The main entrance features double-height aluminum storefront glazing. The double apparatus bay, opening onto Windsor Road, features painted steel bi-fold doors in wood casing. The roofing consists of arched metal panels, with single-ply roofing around the rooftop mechanical units. Overall, the exterior finishes are in fair condition. The brick walls are exhibiting stress cracks in several places, most likely due to structural settlement and impact damage. Additionally, the sealant on the exterior wall control joints has reached the end of its useful life and requires replacement.

Interior finishes include epoxy-coated concrete in the apparatus bay, clear-finished ground concrete in the living spaces, carpeting in the dormitories and office areas, and ceramic tile flooring in the kitchen and bathrooms. Overall, the interior finishes are in good condition.

MECHANICAL

Mechanical Systems

The mechanical system at Fire Station 3 is serviced

by six split system air conditioning units and three ductless split system air conditioning units that service the administrative spaces, living quarters, and fire department spaces. Four gas unit heaters serve the apparatus bay and turnout room. Eight ceiling exhaust fans and an in-line exhaust fan serve the building. A Plymovent system serves each parking bay in the main apparatus bay and the secondary apparatus bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a shop air compressor. The ceiling exhaust fans, split system air conditioning units, ductless air conditioning units, gas unit heaters, and exhaust fans are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

Plumbing Systems

The plumbing systems at Fire Station 3 are serviced by domestic cold and hot water, sanitary waste, storm drains, gas and vent piping. The domestic hot water is serviced by one gas water heater and one point-of-use instantaneous water heater the serves most of the building. Flush valve water closets, lavatories, sinks, urinals, and showers were observed. The point-of-use instantaneous water heater is recommended for replacement within a 10-year period.

Fire Protection Systems

The building is fire sprinklered and portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

ELECTRICAL

Power Distribution

The fire station does not contain a PG&E meter on its property.

Electrical service to the building is delivered underground from a PG&E meter and disconnect switch located in the adjacent County Public Works building. The feeder runs underground to a dedicated electrical room at the fire station and terminates in the main panelboard ‘DP”. Panelboard “DP’ is rated for 400A, 277/480V, three phase. This panel feeds an outdoor dry-type, 150KVA transformer. This transformer sub-feeds panelboard “LA” within the same electrical room. All the electrical equipment appears original to the 2009 installation. The panelboards are GE A-Series II

type and appeared to be in good overall condition.

The outdoor transformer had some signs of rust, and the landscaping was in contact with the enclosure. The landscaping should be cut back to protect the enclosure and to keep debris out of the vented openings of the equipment.

The interior mechanical room contains two additional electrical panelboards that are similar to GE and appeared to be in good condition. These panelboards contained arc flash warning labels. The shop building contains a panelboard for that structure.

This electrical distribution equipment is approximately at the middle of its expected useful life. With preventative maintenance, the remaining life is beyond the timeline of this report.

Standby Power

Fire Station 3 does not have a generator on its property. The main incoming feeder to the fire station from the County Public Works building is supplied with standby power by the generator located at the building's corporation yard. This generator is a large 300KW MQ model with a 2003 installation date. Located outdoors, the generator supplies several other loads within the Public Works building. The generator is supplied with diesel fuel from a sub-base fuel tank. Signs of rust were observed on the generator's enclosure.

Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. Neither of these were present.

The generator is nearing the end of its expected life. It is beyond the scope of this FCA to investigate equipment on other properties that supply non-fire station related buildings. For costing and planning purposes, we have included a replacement cost for a 100KW generator located on the property and dedicated to the fire station when the existing generator reaches the end of its expected life.

Solar

A portion of the parking lot has a carport structure with solar modules. No shading concerns were observed. There are two SunPower string inverters located in the electrical room. The inverters appeared to be in good condition. The system

was installed in 2009 and is nearing the end of its expected useful life. The amount of power produced by the system could not be determined without load monitoring of the production. Although the photovoltaic (PV) system is not critical to the operation of the fire system, it contributes to energy savings.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp pendant mounted strip fixtures. The residential portions typically contain downlights with low voltage track lights in the kitchen/dining room.

The dorm rooms contain ceiling fans with integral lighting. The corridor has pendant mounted fixtures. The station space is visually comfortable and has a non-institutional, residential look.

Several of the original fluorescent fixtures have been relamped to LED.

The interior lighting is nearing the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixture with a pure LED based type when these systems reach their expected end of useful life in the next five years.

The exterior lighting consists of light poles and wall mounted fixtures around the perimeter of the fire station. There is also under canopy lighting in the walkway connecting to the shop. The wall-mounted and under canopy fixtures show signs of weathering and dirt depreciation; however, there were no obvious signs of damage or degradation noted. The light poles are square type with shoebox fixtures. The poles showed dirt build up and early signs of rust but overall looked in fair condition.

Although aging and nearing the end of its expected life, the exterior lighting should remain functional for several more years.

Fire Alarm Systems

The station has a Silent Knight model 5700 main fire alarm panel in the telecom room that appeared original to the building. The control panel indicated all normal conditions.

The building contains smoke detectors and combination strobe/horns. The field devices appeared to be Silent Knight type and installed

with the panel during the initial construction. There are smoke detectors located outside of the sleeping quarters. These appeared to be battery powered, single station type.

The fire alarm system is at the end of its expected service life. The Silent Knight 5700 control panel has been discontinued. Replacement components will likely become increasingly difficult to procure. Replacement is recommended.

OPERATIONAL ASSESSMENT

Constructed in 2009, Station 3 is the District's newest station and complies with most current fire station design standards.

The single-story station contains a lobby, a single occupancy public restroom, captains' office, station office, kitchen, dining, day room, four double-occupancy dorm rooms, two single occupancy bathrooms, laundry, two-bay, 70-feet (63-feet net after reduction of in-swing doors) deep drive through apparatus room, decon and medical alcoves, turnout room, two shops, a single occupancy apparatus restroom, apparatus storage room, and exercise room.

Minor deficiency of the station consists of an apparatus bay that is slightly too short to function as a true double-deep station, an exercise room that is smaller than normal, a kitchen that is missing a 5-foot accessible work area, a laundry room where the washer and dryer are stacked and not accessible, and a lack of decontamination features (sinks, door mats and door seals) between apparatus bays and the house. **A summary is as follows:**

Essential Service Structure

- Complies

Operation

- Drive-through apparatus bay slightly short in length.
- Exercise Room slightly undersized.

Carcinogen and Infectious Disease

- Decontamination can be improved between Apparatus Room and House

ADA

- Kitchen not accessible
- Washer and dryer at the laundry room not accessible

Gender Accommodation

- Complies

Sustainability

- Complies

*A summary chart comparing the existing stations against best practices is provided on Page 45 of this report.

FIRE STATION 7

PHYSICAL CONDITION ASSESSMENT

ARCHITECTURAL

Sonoma County Fire District Station 7 is located at 6554 Mirabel Road in Forestville, California. The 9,650-square-foot, single-story station was constructed around 1976, with a separate 1,000-square-foot, manufactured modular building for training purposes installed in approximately 2011. The modular training building is in poor condition and beyond its useful life. Replacement of the building is recommended. Other accessory structures include a 1,500-square-foot shop, a 1,200-square-foot boat storage shed, and a 150-square-foot generator shed. Interior spaces consist of a three-bay apparatus bay, three dormitories, a kitchen, day room, offices, and a meeting/training room.

The primary structure of the fire station is post and beam with wood framed infill walls and roofing. Exterior finishes consist of concrete masonry, cement board, asphalt shingle roofing, and single-ply EPDM membrane roofing with elastomeric coating. The exterior windows consist of original, single-glazed aluminum frame in the offices, and anodized aluminum frames with insulated glazing in all other areas. Insulated aluminum sectional doors are installed in the three apparatus bays, while exterior doors are constructed of wood. The original single-glazed aluminum windows have exceeded their useful life, as have the exterior wood doors.

The asphalt shingle roofing is in poor condition and is recommended for replacement within five years. The single-ply EPDM roofing has failed in numerous places and also requires replacement. The upper roof drains need cleaning as buildup of debris around the mechanical units was observed, indicating ponding. The skylights are at the end of their useful life, necessitating replacement. Overall, the exterior finishes are in fair condition.

The interior finishes consist of clear-finished ground concrete throughout, with carpet in the offices and ceramic tile in the bathrooms. Other finishes include painted gypsum wallboard and wood doors, and new kitchen cabinets installed in 2023. The clear-finished concrete slab in the hallway, near the day room, and in the dormitory rooms are showing signs of excessive cracking, necessitating repair and further investigation to determine the cause of damage. Overall, the interior finishes are in fair condition.

MECHANICAL

Mechanical Systems

The mechanical system at Fire Station 7 is serviced by one split system that serves the administrative spaces, living quarters, and fire department spaces in the main building. One split system with heat pumps serves the training modular building. Two gas unit heaters serve the apparatus bay and the separate storage/shop building. A rooftop exhaust fan, a rooftop ventilator, and ceiling exhaust fans serves the building. A Magnegrip system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has two shop air compressors and an air/oxygen containment fill station. The split system air conditioning units, ductless split system air conditioning units, rooftop exhaust fan, ceiling exhaust fan, a gas unit heater and the Magnegrip exhaust removal system are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that the shop building is being used as storage, and if the area is to be used as a shop, conversions will need to be made.

Plumbing Systems

The plumbing systems at Fire Station 7 are serviced by domestic cold and hot water, sanitary waste, gas, and vent piping. The domestic hot water heater is serviced by a gas water heater serving the main fire station. An electric water heater serves the training building. Flush tank water closets, lavatories, kitchen sinks, and showers were observed at the main fire station building. A sink was observed at the training building. The gas water heaters serving the main fire station building are recommended for replacement within a 10-year period.

Fire Protection Systems

The building is not fire sprinklered. Portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

ELECTRICAL

Power Distribution

Electrical service to Fire Station 7 is delivered underground from PG&E and terminates in an outdoor meter that supplies an adjacent main disconnect switch. The main disconnect is rated for 400A, 120/240V, single phase. The meter and switch appear original to the building and the enclosures were weathered.

Adjacent to the main disconnect switch is a 400A, ASCO type Automatic Transfer Switch (ATS). The enclosure is made of galvanized steel and showed signs of rust at the hinges and along edges where the galvanizing is weaker. The output of the generator also connects to this switch. The load side of the ATS supplies power to the entire fire station.

The interior of Fire Station 7 has two surface mounted panelboards in the apparatus bay, L1 and L2 which are next to each other. The panelboards are GE A-Series II panels and appeared to be installed recently. The panels were in good condition and enclosures were clean and unblemished.

There is a subpanel in the training room modular building supplied from the main. The subpanel is a small load center and appeared original to the training room building.

The storage building also contains a panel that appeared original to the building. The panel was blocked by heavy storage items and could not be accessed.

The original exterior equipment is at the end of its useful life and has been exposed to the elements for decades. They are recommended to be replaced. The interior panels should have many years of useful life remaining.

Standby Power

Fire Station 7 has a standby generator on a concrete pad on the station's exterior near the storage building. Installed in 2004, as noted on the equipment the nameplate, the generator is housed in an integral weather resistant housing. The

generator is manufactured by Caterpillar, is rated for 100KW, 240V, single-phase, and appeared to be in fair condition. The generator control panel did have a warning condition that was communicated to the Owner. The enclosure had some signs of rust and one of the housing panels was bent. There was also some dirt built up on the engine. The control panel indicated 695 hours of runtime. The generator is supplied with diesel fuel from a sub-base fuel tank.

Based on age, the equipment is nearing the end of its expected useful life. The ASCO ATS switch looked to be the same age as the generator.

Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. Neither of these were present.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains basic single-lamp pendant mounted strip fixtures. The remaining interior areas typically contain recessed 2'x4' parabolic style fluorescent fixtures. Several of these fixtures have been re-lamped to LED four-foot retrofit tubes.

There are several downlights that appear original to the building. These have screw in type LED lamps to replace their original incandescent type. There are no illuminated exit signs. The training building has a T-bar ceiling with 2'x4' recessed fluorescent fixtures with acrylic diffusers. The storage building has pendant mounted 2'x4' high bay LED fixtures. Lighting toggle switches are used for control.

The interior lighting is past the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixtures with a pure LED based type.

There is limited exterior lighting and no light poles. Fluorescent strip fixtures are present under the patio of the fire station. There are also a few wall-mounted fixtures around the perimeter of the fire station. It is recommended that these fixtures be replaced with LED type. New lighting controls should be provided as well to comply with current energy code requirements.

Fire Alarm Systems

The station does not have a fire alarm panel. There are ceiling mounted smoke detectors that appear to be battery powered, residential style, single station type.

Installation of a new hardwired fire alarm system with full notification provided throughout the station is recommended. This would also allow for the fire alarm system to be remotely monitored.

OPERATIONAL ASSESSMENT

Station 7 was constructed in 1974, prior to the enactment of the Essential Service Act. Since its completion, the day room, dining room, kitchen, bathrooms, and dormitories have been remodeled.

In addition to the fire station, the property is utilized as a training and as a storage / logistics facility. The station includes a large rear apron, a covered lunch area, modular classroom building, and a pre-engineered metal storage building. During extreme rain periods, the station is up-staffed to handle water rescue operations.

The single-story fire station contains a day room, kitchen, dining room, three dorm rooms, one single occupancy restroom, one single occupancy bathroom (contains one shower), station office, captains' office, control room, and a three-bay 68-foot deep apparatus room consisting of one back-in bay and two drive through bays.

The principal deficiency of the station is the lack of restrooms and bathrooms. The station has only one restroom (no shower) and one bathroom (one shower) shared by the assigned crew of three to four, an up-staff of four to six or an academy of 15 to 25. Additional issues include a mop sink shared for household and contaminant cleaning, exercise workouts occurring in the apparatus room, an SCBA refill station drawing apparatus bay air, a kitchen that is missing a five-foot accessible work area, and lack of decontamination features (sinks, door mats, and door seals) between the Apparatus Room into the house. **A summary is as follows:**

Essential Service Structure

- Does not comply

Operation

- Back-in acceptable
- Reasonable Apparatus Room circulation
- Insufficient number of bathrooms

Carcinogen and Infectious Disease

- Mop sink shared for household and contaminant cleaning.
- Exercise Equipment in Apparatus Room
- PPE not in enclosed heated/ventilated room.
- SCBA drawing air from Apparatus Room
- No decontamination between Apparatus Room and House

ADA

- Kitchen not accessible

Gender Accommodation

- Complies

Sustainability

- Does not meet current standards

*A summary chart comparing the existing stations against best practices is provided on Page 45 of this report.

FIRE STATION 8

PHYSICAL CONDITION ASSESSMENT

ARCHITECTURAL

Sonoma County Fire District Station 8 is located at 6161 Bennet Valley Road in Santa Rosa, California. The station was constructed and completed in 1966, and is located in the easterly rural part of the City of Santa Rosa. The site contains a 5,400-square-foot, single-story fire station, a 150-square-foot generator shed and a 150-square-foot shop. Interior spaces include a four-door apparatus bay (one pull-through and two back-in apparatus bays), gym, day room, kitchen, dormitories, and offices.

The primary structure of the building consists of wood frame walls with glulam beams and wood decking. Exterior finishes consist of plywood panels walls, single-pane metal windows, standing-seam metal roofing over the apparatus bay, and single-ply roofing above the living quarters. Wood rot has been identified on the painted plywood sheathing at the base of the exterior walls, which requires replacement. Both the metal roof and the single-ply roofing, which were installed in 2017, are in good condition, with no damage observed. Debris was observed along the edge of the single-ply roof, indicating ponding due to clogged roof drains. Overall, the exterior finishes are in fair condition.

The interior finishes consist of gypsum wallboard, composite wood flooring, sealed concrete slab in the apparatus bay, wood cabinets, and wood doors. The gypsum wallboard in the office, bathroom, and apparatus bay are in poor to fair condition and need repair. Similarly, interior wood doors and frames have exceeded their useful life, necessitating replacement. The kitchen cabinets were installed around 1990 and need replacement. Overall, the interior finishes are in fair condition.

MECHANICAL

Mechanical Systems

The mechanical system at Fire Station 8 is serviced by a rooftop packaged air conditioning unit which services the administrative spaces, living quarters and fire department spaces. A gas unit heater serves the apparatus bay. Two rooftop exhaust fans, and a ceiling exhaust fan service the building. A Plymovent system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a shop air compressor and an air/oxygen containment fill station. The rooftop packaged air conditioning unit and the rooftop exhaust fans are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that due to natural gas present at the site, propane tanks are not needed at the barbeque stations.

Plumbing Systems

The plumbing systems at Fire Station 8 are serviced by domestic cold and hot water, sanitary waste, gas and vent piping. The building has a water treatment system consisting of a water softener unit and a UV water purification system. In addition, a reverse osmosis system was observed at the kitchen sink. The domestic hot water is serviced by a tankless gas water heater. Flush tank water closets, lavatories, urinals, kitchen sinks, and showers were observed. The tankless gas water heater is approaching the end of its useful life and is recommended for replacement within a 10-year period.

It was reported by staff that several deficiencies have been identified with the existing septic system, requiring further investigation to determine appropriate level of repair or replacement.

It was observed that small propane tanks are being used for the outdoor barbecue appliance. A new gas line should be plumbed for this equipment instead of the propane tank.

Fire Protection Systems

The building is not fire sprinklered. Portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

ELECTRICAL

Power Distribution

Electrical service to Fire Station 8 is delivered overhead from PG&E and terminates in an outdoor combination meter that supplies an adjacent main enclosed circuit breaker. The main breaker is rated for 200A, 120/240V, single phase. The meter and main circuit breaker appear original to the 1960's building. The meter enclosure had signs of rust. The main circuit breaker is an obsolete Zinsco type with significant rust on its enclosure.

Adjacent to the meter and main circuit breaker is a shed that contains the station standby generator. Power from the meter is routed to an Automatic Transfer Switch (ATS) in this shed. The output of the generator also connects to this switch. The load side of the ATS supplies power to the entire fire station.

The interior of the fire station has a main panelboard recessed into the corridor wall that appears original to the building's construction. It is an obsolete Cutler Hammer NLAB model that is rated for 225A, 120/240V, single phase. The door of the panel was slightly askew due to a bad hinge and some screws were missing. The panel schedule was yellowed from age.

There is a subpanel in the apparatus bay that is supplied from the main. It is a small load center with no nameplate. The subpanel did have an open knockout on the side. There is a similar load center located on the exterior storage shed with some screws noted as missing during the assessment. Equipment labels on the indicating records of testing or preventative maintenance were not observed. Additionally, there were no arc flash warning labels installed.

The original electrical equipment is over 50 years old and past the end of its expected useful life. Due to age and apparent lack of maintenance, this equipment may not operate to protect the electrical system if needed.

Standby Power

The station has a standby generator within an exterior shed outside of the station. The generator is configured to provide power to the entire fire station upon loss of utility power. The generator is housed in an integral weather resistant housing.

Manufactured by NORPRO, the generator is rated for 30KW, 240V, single-phase and appeared to be in good condition. The belts and hoses were clean and no signs of rust or degradation on the equipment or housing were noted. The generator control panel showed no alarm or warning conditions. No history of issues with the generator operation was discovered. The generator is supplied with diesel fuel from a sub-base fuel tank. The labeling indicated the equipment has been regularly maintained beginning in 2016, which we presume is the age of the unit.

Based on age and visual observation, the equipment should perform for many more years with adequate maintenance.

The ATS switch is by ASCO and looked to be the same age as the generator. Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. These were not present.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp pendant mounted turret style strip fixtures. The remaining areas typically contain surface mounted 1'x4' wraparound fluorescent fixtures. Several of these fixtures have been re-lamped to LED four-foot retrofit tubes.

There are several downlights that appear original to the building. These have screw in type LED lamps to replace their original incandescent type. No exit signs were observed. Lighting toggle switches are used for control.

The interior lighting is past the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixtures with a pure LED based type.

The exterior lighting consisted of wall-mounted fixtures around the perimeter of Fire Station 8. Some of these are modern LED fixtures with clear diffusers that appeared to be in good condition. There are some older jelly jar style fixtures with compact fluorescent lamps. These should be replaced with LED type.

New lighting controls should be provided along with fixture replacement to comply with current

energy code requirements.

Fire Alarm Systems

Fire Station 8 does not have a fire alarm panel. There are ceiling mounted smoke detectors that appeared to be battery powered, residential style, single station type.

Installation of a new hardwired fire alarm system with full detection and notification devices provided throughout the station is recommended. A fire alarm panel would also allow for the fire alarm system to be remotely monitored for trouble and alarm conditions.

OPERATIONAL ASSESSMENT

Station 8 was constructed in 1966 prior to enactment of the Essential Services Act.

The single-story station has a large day room which previously accommodated meetings and training of volunteer firefighters, has a small open barrack room with partitions and curtains for three personnel, a multi-occupancy men's bathroom, a single-occupancy public restroom, a control room, an open office for firefighters and an adjoining private office/dormitory for the captain. The three-bay apparatus room has one 58-foot drive-through bay, a 58-foot back-in bay, and a 28-foot back-in bay.

The primary deficiencies of the station are the lack of private dorm rooms. Additional issues include a janitors mop sink shared by household and contaminate cleaning, exercise workouts occurring in the apparatus room, no bathrooms for female firefighters, no ADA compliant bathrooms, a kitchen that is missing a 5-foot accessible work area, and lack of decontamination features (sinks, door mats and door seals) between apparatus room into the house. **A summary is as follows:**

Essential Service Structure

- Does not comply

Operation

- Back-in acceptable
- Reasonable Apparatus Room and house circulation

Carcinogen and Infectious Disease

- Mop sink shared for household and contaminant cleaning
- Exercise Equipment in Apparatus Room
- PPE not in enclosed heated/ventilated room.
- SCBA shed lacking outside air vents
- No decontamination between Apparatus Room and House

ADA

- Bathroom and restroom not accessible
- Kitchen not accessible

Gender Accommodation

- No women's bathroom
- No private dorm rooms for females

Sustainability

- Does not meet current standards

*A summary chart comparing the existing stations against best practices is provided on Page 45 of this report.

FIRE STATION 10

PHYSICAL CONDITION ASSESSMENT

ARCHITECTURAL

Sonoma County Fire District Station 10 is located at 510 CA-1 in Bodega Bay, California. The two-story 8,582-square-foot station was constructed in 1999 by the Bodega Bay Fire Protection District. The ground level houses a three-bay apparatus bay, offices, and a training room. Additionally, a community room and large bathroom were constructed, intended to support board functions and training sessions. The second level accommodates living quarters, a kitchen, and dayroom. The living quarters include three original dormitories, with two additional rooms created through alteration of a training room.

The primary structure of the building is post and beam with wood frame infill walls. The roof is of wood frame construction. Exterior finishes consist of predominantly cement plaster walls and asphalt roof shingles. A steel framed stairway with concrete treads leads from site up to the second-story day room. The building features balcony vinyl windows with insulated glazing, and insulated glass skylights. Overall, the exterior finishes are in poor condition. The cement plaster throughout exhibits signs of aging, with ample cracking, spalling, and stains. The steel framed exterior stair exhibits significant corrosion and the concrete treads are spalling in multiple places. The asphalt shingles, skylights, and windows were recently installed and are in good condition with no major damage observed. The exterior metal doors exhibit corrosion and will require repairs.

Interior finishes consist of epoxy sealed concrete, vinyl composition tile, wood composite flooring, ceramic tile, and carpet throughout the offices and meeting rooms. The interior wood doors are mostly in good condition. The carpet in the meeting rooms and offices is beyond its useful life and is recommended for replacement. The vinyl

composition tile in the hallway is approaching the end of its useful life, necessitating replacement. The plastic laminate countertops and cabinets throughout are in poor condition and are recommended for replacement. Overall, the interior finishes are in poor condition.

MECHANICAL

Mechanical Systems

The mechanical system at Fire Station 10 is serviced by two propane furnaces that service the administrative spaces, living quarters and fire department spaces. Two propane unit heaters serve the apparatus bay. A roof exhaust fan, an in-line exhaust fan, and a sidewall ventilator serve the building. A Plymovent system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a shop air compressor and an air/oxygen containment fill station. The roof exhaust fan, sidewall ventilator, unit heaters and the furnaces are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that the Plymovent ductwork goes through a mechanical space that has been converted into living quarters. If the ductwork should leak, there are concerns that the exhaust fumes from the Plymovent system will infiltrate into the room, causing hazardous conditions for the occupants within the space. It is recommended that the ductwork be rerouted away from the living quarters, or the space be converted back to a mechanical room for the safety of its occupants.

Plumbing Systems

The plumbing systems at Fire Station 10 are serviced by domestic cold and hot water, sanitary waste, storm drains, propane gas and vent piping. Propane gas is provided via two 500-gallon tanks present at the site. The domestic hot water heater is serviced by a propane gas water heater. In addition, the building has a water softener system, and a water filtration treatment system was observed at the kitchen sink. Flush tank water closets, lavatories, urinals, kitchen sinks, and showers were observed. The water heater is recommended for replacement within a 10-year period.

It was observed that small propane tanks were being used for the outdoor barbecue appliance. It

is recommended that a new gas line be plumbed specifically for this equipment in lieu of using the propane tank.

Fire Protection Systems

Fire Station 10 is fire sprinklered and portable fire extinguishers were observed. The fire sprinkler heads throughout the exterior of the building appear to have excessive corrosion from the ocean air due to the fire station's proximity to the coast. It is recommended that all the exterior fire sprinkler heads be replaced due to the corrosion.

ELECTRICAL

Power Distribution

Electrical service to Fire Station 10 is delivered underground from PG&E and terminates in the main switchboard in the apparatus bay. The switchboard consists of a PG&E meter and a main bolted pressure switch. The equipment is rated for 400A, 120/240V, single phase and is original to the station's 1997 construction. There were some scuff marks on the equipment and small signs of rust. The nameplate on the main pressure switch was also illegible. The equipment is floor mounted directly to the slab without a housekeeping pad for protection.

Immediately adjacent to the main switch is an Automatic Transfer Switch (ATS) that is connected to an onsite generator to back up power to the entire fire station. This transfer switch was rated for 400A and appeared original to the building.

There are several panelboards located in the fire station. These panelboards are GE A-series type and original to the building.

Panel LA is a two-section type rated for 225A, 240V, single phase that is recessed into the wall in the apparatus bay. The panel had some signs of dust/dirt intrusion, small signs of rust, and some missing screws.

Panel LB is rated for 225A, 240V, single phase and located in the community room. This space is an interior, conditioned room, and the panel enclosure appeared to be in good condition.

We did not see any labels on the equipment indicating any testing or preventative maintenance has been performed. There were no arc flash warning labels installed.

The panelboards are approximately 27 years old and nearing the end of their expected useful life. The equipment in the apparatus bay is exposed to the coastal air environment and showed signs of degradation.

Standby Power

Fire Station 10 has an outdoor standby generator in a shed outside the apparatus bay. The generator is configured to provide power to the entire fire station upon loss of utility power.

The generator is manufactured by Blue Star Power Systems and rated 100KW, 240V, 1-phase. The nameplate on the equipment indicated it was manufactured recently in 2017. The generator control panel showed no alarm or warning conditions. No history of issues with the generator operation was discovered. The generator is in an enclosed structure and does not have weatherproof housing. The generator is supplied with diesel fuel from a sub-base fuel tank.

The generator engine housing had some blackened deposits indicating a possible fuel leak in its history. There were labels indicating the generator is regularly maintained. Based on age, the equipment is not close to its rated life and should perform for many more years with adequate maintenance.

The output of the generator is connected to the ATS next to the main switch. Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. These were not present.

Solar

The station has a ground-mounted solar array located on a hillside facing the coast on the property. The modules are on concrete piers and angled. There are (108) 200W Sanyo polycrystalline panels. The modules were intact at the time of the assessment. Some dirt built up on the panels was noted. The east side of the array was partially obstructed from sunlight from overgrown shrubs.

The output of the arrays runs to three string inverters mounted on the north exterior of the fire station. These were Sunny Boy inverters within fiberglass enclosures. The nameplates were difficult to read and weathered. The inverter output supplied a disconnect switch that was heavily rusted.

The nameplates and records indicate this system was installed in 2007. The inverters are nearing the end of their expected useful life. The amount of power produced by the system could not be determined without load monitoring of the production. The system is aging and approaching the time for a replacement or refurbishment. Although the PV system is not critical to the operation of the fire system, it contributes to energy savings.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp surface mounted strip fixtures. The non-residential first floor room typically contains surface mounted 1'x4' wraparound fluorescent fixtures. Some of these fixtures had cracks in their diffusers. There are downlights with open reflectors and compact fluorescent lamps at various locations. The second-floor residential area typically contains downlights similar to the first floor.

The exit signs are the self-luminous style. These cannot be re-lamped and brightness diminishes over time. Lighting toggle switches are used for control and motion sensor shut-off wall-mounted switches are used in the restrooms. The motion detector switches are not rugged devices and showed wear.

The interior lighting is past the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixture with a pure LED based type.

The exterior lighting consists of light poles and wall mounted fixtures around the perimeter of the fire station. There is also under canopy lighting installed in the soffits of the apparatus bay and building entrance. The wall-mounted fixtures showed discoloration of diffusers and housings as expected in a coastal environment. This would at a minimum reduce lighting levels. The light poles are white, square type with shoebox fixtures. The poles showed dirt build up and paint peeling. No rust gaps in the poles were noted. The shoebox fixture housing also had paint peeling. The original lamps have been replaced with an LED equivalent. Due to age and the salt air coastal conditions, replacement for all exterior lighting is recommended.

New lighting controls should be provided as well to comply with current energy code requirements.

Fire Alarm Systems

The station has a main fire alarm panel located in the apparatus bay. Manufactured in 2023 and recently installed, the panel is a Fire-Lite MS-10UD. The control panel indicated all normal conditions. The fire station contains pull stations, smoke detectors, heat detectors, and combination strobe/horns. The field devices appeared to have been re-used when the fire alarm panel was replaced. This fire alarm panel is compatible with the existing field devices. There were smoke detectors located outside of the sleeping quarters. These appeared to be battery powered, single station type.

The fire alarm panel has many more years of service remaining. It is recommended the aging field devices be replaced with new to create a completely reliable system.

OPERATIONAL ASSESSMENT

Station 10 was constructed in 1999, after enactment of the Essential Service Act.

The two-story station was formerly Bodega Bay Fire Districts headquarters fire station. The first floor contains a small lobby, a large community room formerly used for Fire District Board meetings, a medium sized conference room, public multi-occupancy men's and women's restrooms, two private administrative offices, one open administrative office, a three-bay back-in apparatus room consisting of a 43-foot deep bay, and two 58-foot deep bays and two shops. The second floor contains the day room, dining, kitchen, two single occupancy dormitories, one single occupancy dorm room with private bath, one dual occupancy dorm room and a single multi-occupant men's bathroom.

The primary deficiency of the station is the necessity of entering the Apparatus Room to gain access between floors. Carcinogens present in the Apparatus Room are spread through the house interior by the constant travel of personnel through the Apparatus Room. Additional contaminant spread is caused by the washer and dryer sharing space with the extractor, by a janitor's mop sink shared for household and contaminant cleaning, exercise workouts occurring in the apparatus room. There is no elevator, no ADA compliant bathrooms, no bathrooms for female firefighters, a kitchen that is missing a 5-foot accessible work area, and lack of decontamination features (sinks, door mats, and door seals) between the Apparatus Room into the house. **A summary is as follows:**

Essential Service Structure

- Complies

Operation

- Back-in acceptable
- Reasonable Apparatus Room circulation
- Discontinuity between first and second floor interior circulation
- Insufficient number of private dorm rooms.

Carcinogen and Infectious Disease

- Interior circulation interrupted by Apparatus Room.
- Extractor located in Laundry Room
- Mop sink shared for household and contaminant cleaning.
- Exercise Equipment in Apparatus Room
- PPE not in enclosed heated/ventilated room.
- SCBA drawing air from Apparatus Room
- No decontamination between Apparatus Room and House

ADA

- Second floor lacking elevator access
- Second floor bathroom not accessible
- Kitchen not accessible

Gender Accommodation

- No women's bathroom on second floor

Sustainability

- Does not meet current standards

*A summary chart comparing the existing stations against best practices is provided on Page 45 of this report.

3. BEST PRACTICES

BEST PRACTICES

INTRODUCTION

Most fire stations in the Bay Area were built during the post WWII housing expansion between 1950 and 1970. Fire services have substantially evolved since that time. With stricter building codes and better fire prevention methods, structural fires constitute a smaller percentage of calls while medical, rescue, and hazmat constitute greater percentages. To accommodate these broadened services, apparatus and fire stations have increased in size as well as specialization.

We have become technically more sophisticated and evolved as a society. The effects of earthquake and fire on structures are better understood. The health and safety of our first responders are of greater concern not only during emergencies but in their daily activities. We have become more inclusive. The disabled are given access to our public facilities as much as the able-bodied. Females continue to increase as a larger percentage of our fire fighters. We understand that sustainable design practices reduce global warming and the potential for devastating wildfires.

A common misconception is that we should only design fire stations to meet the Code. The Code describes the minimum requirements for new construction. The only areas specific to fire stations are the Essential Service requirements. Upgrading an existing fire station to meet Essential Service provisions, while elective, is highly recommended.

ESSENTIAL SERVICES

In 1986, the State of California passed the Essential Service Act. In recognition that California is subject to earthquakes, the structural requirements for buildings which house first responders were made more robust. It is expected that our first responders be able to assist the public after an earthquake. New fire and police stations were henceforth required to take approximately 50% more lateral loads than other building types. For existing fire stations, if more than 10% of its structure is modified, the Code requires that the entire building structure be upgraded. If a fire station is enlarged, the addition can be seismically isolated from the existing structure to avoid upgrading the entire station.

OPERATIONS

APPARATUS INGRESS / EGRESS

Apparatus must be able to safely ingress/egress a station. Drive-through apparatus bays enable the drivers to observe pedestrians and obstructions in front of the apparatus. Back-in stations may be appropriate for occasional use or where the adjacent street has minimal traffic. Back-in stations require fire personnel to safely exit the apparatus, guide the driver into the apparatus bay. Four-Fold apparatus doors are preferred by many fire districts for their speed and reliability.

APPARATUS ACCOMMODATION

The standard fire station apparatus door is 14-feet wide and 14-feet high. For initial planning purposes, 30-feet in length is planned for fire engines, 65 feet for tractor-trailer (tiller) fire trucks and 45-feet for non-tiller fire trucks. It is recommended that cut sheets of every current and anticipated apparatus be reviewed to make sure that sufficient space is provided.

CIRCULATION FOR TURNOUT TIME

A fire station's "turnout time" is the time required by fire personnel to hear the dispatch message, don PPE, access their assigned apparatus and begin travel to the incident. The paths of travel leading from every point within the station into the apparatus bays should be reduced. Interior hallway clearances and the width between apparatus are recommended at a minimum of five-feet.

ACCOMMODATION FOR INTENDED USE

A fire station's mission changes over time. The type of apparatus required and the number of personnel continually evolves in order to meet the district's overall response strategy. Fire stations should be designed for flexibility and potential growth.

CARCINOGENS & INFECTIOUS DISEASE

Recent studies have shown that a large percentage of fire personnel have contracted cancer during active duty or have an onset of cancer after retirement from fire services. This is attributed to exposure to contaminates (carcinogens) during structural fires, or exposure to carcinogens brought back to the fire house. A compiled list of studies is published by the NFPA Research Foundation entitled Recommendations for Developing and Implementing a Fire Service Contamination Control Campaign, February 2018. According to this document, NFPA document 1581 is the best design reference document for carcinogen contamination control in fire stations (page 14). An easy-to-read article on the subject, Clean by Design, NFPA Journal January 2018 is included in the Appendix. It discusses the design practice of zoning fire stations into three areas to isolate, control and reduce the spread of carcinogens: Hot (apparatus bay), Warm (transitional zones), and Cool (interior house). Implementing measures to reduce exposure to infectious diseases and carcinogens has become one of the leading reasons for fire station replacement and renovation.

TRANSITION ZONE

The “warm” or transition zone is located between the “hot” apparatus bay and “cold” house zones of a fire station. In this zone the intention is to remove carcinogens before entering the house. Particulates are removed from boots and hands by means of floor mats and hand sinks. If hand sinks cannot be provided, then hand sanitizers should be placed at doors leading from the apparatus bay into the house. Similarly, while built-in floor mats are installed at new stations, a portable floor mat will suffice at existing stations. The air pressure of the house should be positive relative to the apparatus bays. Interior house exhaust fans need to be interlocked with fresh make-up air to maintain positive interior pressure. Doors between the house and apparatus bays require positive seals. The optimum transition zone is a vestibule with a door to the apparatus bay and separate door to the house interior.

CLEANING STATIONS

NFPA recommends three distinct and separated cleaning stations within a fire station:

Decon Cleaning Station

The decon cleaning station is for the cleaning of PPE, and other items exposed to carcinogens. It is in or adjoin the apparatus bay “hot zone” and is to be separate from the medical cleaning and house cleaning stations (NFPA 1581.5.6.4).

Medical Cleaning Station

According to NFPA “Fire Departments that provide emergency medical services shall provide or have access to disinfecting facilities for the cleaning and disinfecting of emergency medical equipment.” (NFPA 1581.5.7.1). The cleaning station is in the “warm zone” of the fire station.

House Cleaning Station

The household laundry and janitorial “cold zone” cleaning should be accessible from the house interiors and not be collocated with the other two cleaning stations.

BEST PRACTICES

PPE (TURNOUT) STORAGE

Fire personnel typically have one set of PPEs that they utilize when on duty, and a second spare set should the first set need cleaning. PPE should be stored in an isolated enclosed room with good fresh air circulation (NFPA 1581.5.5.4.1). PPE degrades over time. Exposure to ultra-violet of direct sunlight speeds up the process including off-gassing.

SCBA/OXYGEN REFILLING

The self-contained breathing apparatus (SCBA) and oxygen refilling should occur in a clean enclosed environment. SCBA rooms should be ventilated with fresh outside air as this air is used to fill the SCBA units. Drawing air directly from the apparatus room is not recommended.

KITCHEN

Due to the extensive usage by a relatively large number of rotating staff, NFPA 1581.5.2 recommends that kitchens be designed to a near commercial level. Separate sinks or areas are to be provided for food preparation and utensil cleaning. Non-permeable, seamless stainless-steel counters with integrated sink have become the standard.

FLOOR SURFACES

Seamless resilient flooring, or polished/densified concrete flooring is easy to clean and will not harbor carcinogens / infectious disease. Easy to clean non-permeable floor surfaces are to be utilized throughout the house where feasible. To improve room acoustics acoustic ceiling and/or acoustic wall panels should be considered.

EXERCISE ROOMS

Exercise rooms should be large enough so that equipment does not overflow into the apparatus bays. During exercise, pores open and the body can absorb air and particulates from the immediate environment. Exercise rooms are ideally located adjacent to an exterior patio and the rear apron to extend the usable area available for exercise.

AMERICANS WITH DISABILITIES ACT

The Americans with Disabilities Act (ADA) is Federal legislation, which requires that facilities, both new and existing, be accessible to the disabled. The State of California has aligned its building codes to be consistent with the ADA. All new buildings are to be accessible. For remodels, a minimum of 20% of the remodel cost must go towards accessibility upgrades. The area of remodel, as well as the path of travel to the remodel area are required to be accessible. ADA features required for fire stations include an elevator where there is two or more floors, multi-occupancy bathrooms and restrooms to be compliant, 50% or more of single occupancy public restrooms and bathrooms to be compliant, a minimum of five linear feet of accessible counters including a sink to be accessible in the kitchen, accessible parking for visitors and separate accessible parking for employees if such parking is in a secure area. The ADA requires that all existing publicly funded facilities, including fire stations (whether a remodel is planned or not) have a plan on file to bring the facility to full compliance. The ADA does not specify the time in which these upgrades are to be made.

GENDER ACCOMMODATION

Females continue to increase as a percentage of fire personnel. Most fire departments have or are in the process of converting older fire stations from open barracks with multi-occupancy bathrooms to single or double occupancy “dormettes” with single occupancy bathrooms.

SUSTAINABILITY

Sustainable buildings are resource-efficient, high performing and healthy. Sustainable design strategies employed for fire stations differ from those employed for other forms of buildings. A prime example is storm water management. Since a fire station has a large amount of non-permeable apron area, the storm-water is required to be diverted to holding area (bio-swales) and released slowly into storm water systems. This is to reduce the impact on existing storm water utility systems. A fire station must be designed to withstand long-term use and abuse. Interior finishes should be specified from natural and recycled materials, but such materials must be able to withstand constant use to minimize waste and disposal. For example, it is not enough to specify standard formaldehyde-free MDF for firehouse cabinetry. Unless the MDF has a plywood core, the hinges will pull off from cabinets due to constant use. Linoleum is a great choice for upper floors, as this natural material has integral color that does not wear through. Polished/densified concrete is an excellent and cost-effective fire station floor finish due to its sustainable features in addition to being low maintenance and infectious disease resistant.

Health and safety of personnel in addition to being recommended by NFPA, is also a sustainable design measure. Simple is better than complex. Natural is better than artificial. If light, fresh air, heating, and cooling can be introduced naturally into the building, long term operational and maintenance costs will be reduced. A drive-through apparatus bay has better natural ventilation and light than a back-in apparatus bay. Access to exterior spaces provides natural light and ventilation, improves storm water management, reduces heat island affect, and helps in relieving fire personnel stress.

Additional sustainable design strategies that work well in fire stations include radiant or VRF heating/cooling systems for individual control in dorm rooms, solar hot water panels to reduce energy consumption from extractors and laundry facilities, valves at apparatus wash areas to divert carcinogens from contamination of storm water systems, and PV panels integrated with roofing or doubling as shading canopies over parking to reduce the heat-island effect and protect vehicles. Sustainable features can add a higher initial cost to a project but often result in lower life-cycle costs. The strategy should be to select features that minimize negative effects to the environment, improve health, reduce life-cycle costs, and improve fire station operations.

OPERATIONAL ASSESSMENT OF EXISTING STATIONS

The chart below provides ratings for District's existing fire stations against current best practices.

CATEGORY	REFERENCE	STATION NUMBER				
		1	3	7	8	10
ESSENTIAL SERVICES						
Year Constructed	Essential Service Act 1986	1997	2009	1974	1966	1999
OPERATIONS						
Apparatus Ingress/Egress	Best Practice					
Apparatus Accommodation	Best Practice					
Circulation for Turnout	Best Practice					
Accommodates Intended Operation	Best Practice					
CARCINOGEN & INFECTIOUS DISEASE						
Decon Cleaning	NFPA 1581.5.6.4					
Medical Cleaning	NFPA 1581.7					
Transition Zone	NFPA 1581.5.1.3					
House Cleaning	NFPA 1581.5.6					
PPE (Turnout) Storage	NFPA 1581.5.5.4.1					
SCBA/Oxygen Refilling	NFPA 1852.7.2		NA			
Kitchen	NFPA 1581.5.2					
Exercise Room	NFPA 1500.11.3.1					
ADA						
Parking/Entry	CBC 11B.404.2					
Restroom/Bathroom	CBC 11B.213.2					
Kitchen	CBC 11B.212.1					
GENDER ACCOMMODATION						
Gender Accommodation	Best Practice					
SUSTAINABILITY						
Sustainability	LEED					

CHART KEY:

- Meets Best Practice
- Marginally Meets Best Practice
- Does Not Meet Best Practice

4. PROGRAM REQUIREMENTS

PROGRAM REQUIREMENTS

INTRODUCTION

A fire station is a 24/7 facility that has a higher level of usage than just about any other form of construction. In addition, a station's mission, and the best practices to serve its mission continually evolve. At a certain point, when a station is too worn, its mission is substantially changed, or it cannot provide for the health and safety of the public and fire personnel, it becomes necessary to replace rather than remodel a station. Having a space "Program" which describes the functional requirements of the station design is the first step towards its replacement. Most fire districts have single company fire stations whose programs are similar. Rather than designing a custom fire station for each situation, having a "template" station could save design, construction, and operational costs. SCFD's Stations 2 and 4 are currently slated for reconstruction. This is an excellent time to consider a template design. SCFD is also considering a newly constructed or leased Administration Facility.

Three building template space programs have been included in this report for a standard fire station, an administration building, and a battalion command station.

PROGRAM REQUIREMENTS

STANDARD FIRE STATION SPACE PROGRAM

Site Program	
Space Name	**Space Description**
Site Area	Minimum of 0.75 acre, 165' minimum frontage and 165' minimum depth for single story station. Minimum of 0.65 acre, 145' minimum frontage and 165' minimum depth for two story station.
Traffic Lights	Consult Fire District if Applicable
Front Apron	35' minimum depth concrete driveway between the apparatus doors and back of sidewalk for parking fire engines, good site lines and sufficient turning radius into the street. Increase to 50' for fire trucks. To keep apparatus from bottoming out, transitions from the apron to the road should not be abrupt.
Visitor Parking	(2) visitor and (1) ADA. Provide electric vehicle charging as required by AHJ
Secure Parking	(12) employee and (1) ADA. Provide electric vehicle charging as required by AHJ.
Trash Enclosure	10' x 16' x 7' tall CMU enclosure with covering. Pair of heavy duty doors on non secure side (garbage company access) and man-door on secure side (employee access). Consult local refuse company to confirm requirements.
Vehicle Security Gate(s)	Rolling Gate or bi-fold metal gates activated by "clickers" on the apparatus, or by key pad mounted on drivers side of the approach to the gate.
Rear Apron	50' minimum depth concrete area for turning fire engines into apparatus bays. Increase to 65' for fire trucks.
Transformer	Size and location per PG&E requirements.
Switchgear	Sized and located per PG&E requirements.
Photovoltaic Panels w/batteries	Sized to provide 100% of electrical requirement during peak summerday including charging batteries for evening usage. During the majority of the year, power is supplemented by PG&E, however battery provides power at peak rate period (rate shaving). Preference is use panels to cover parking, Provide conduit and other infrastructure within the Project. The batteries and the panels themselves are to be provides as an additive alternate.
Generator	72 hour, connected to fueling station. Sized for 100% load. Conc block enclosure desired.
Fueling Station	1000 gal. diesel fuel in above grade concrete encased vault.
Apparatus Washing Area	Drain below apparatus washing area to have automatic valve which diverts what would normally be storm water to sand oil separator leading to sanitary sewer when apparatus is being washed.
Hydrants	(1) 2-1/2 wharf hydrant in rear apron
Patio(s)	Obscured from public view, and partially shaded directly accessible from exercise and day rooms. Gas and valve to barbeque (FF&E) at day room patio.
Hose Reels	(1) 100' hose reel for washing apparatus bays and trucks.
Ladder Throw	Horizontal bar on side of building for ladder throws

PROGRAM REQUIREMENTS

STANDARD FIRE STATION SPACE PROGRAM

Apparatus Bay and Apparatus Support Program		
Space Name		**Space Description**
Apparatus Bay	4,396	78.5' depth x 56" width. (3) drive-thru bays. 14'x14' appartus doors. In-swing 4-fold apparatus doors facing the street; overhead apparatus doors facing rear apron; floor trench drains running the length of apparatus; power & air drops to each apparatus; Plymovent exhaust system; Apparatus bay heating. 7'-2" high fiber reinforced wll panels around perimeter.Hand sinks activated by electric sensors, walk-off grating with drains at doors leading to vestibules. Densified burnished concrete floor. Conduit infrastructure for future EV apparatus
Front Vestibule	125	Air lock room between apparatus bay and house. Gasketed doors with door bottom at each end. 4-5' stainless steel medical sink with integral drain board, faucet activated by foot pedals. 3-4' counter with base cabinet next to drain board to unpack medical bags. Upper cabinet above sink and base cabinet. 4-5' full height cabinets for medical supplies. 3-4' alert station, incident display, ventilated walkie talkie charging base cabinet with slide-out drawers Walk-off carpet flooring.
Rear Vestibule	100	Air lock room between apparatus bay and house. Gasketed doors with door bottom at each end. Stainless steel hand sink activated by electric sensor. Ice machine. Walk-off carpet flooring.
General Storage	200	Metal FF&E storage racks for absorbal, water, extinguishing agent, and misc storage. Yard storage. Rolling hose and bottle storage racks. Flamable liquid storage cabinet;
Shop	100	5-6' length galv steel shop bench 36" high. Cabinets above and below. Locate in alcove adjacent to apparatus bay furthest from house.
Compressor	45	Small room to acoustically isolate compressors used for Plymovent and general compressed air. Could also contain fire riser.
Turnout	325	Enclosed and separately ventilated and moderately heated room for (25) 30" wide Grid Gear lockers.
Decon	160	Carcinogen cleaning station. 60 lb extractor with rear access for hose and drains (shelves, or space for pump & cleaning agents) 2'6 deep x 5' wide area with rod for hang-drying PPE, mop floor sink with clips to attach mops and squeegees. Standing ss sink w/drain board for cleaning helmets, masks, SCBA tanks and other contaminated items. Good air circulation.
SCBA	140	SCBA filling station. Outside air vent. Oxygen cascade not required
Restroom	65	For usage without entering house

PROGRAM REQUIREMENTS

STANDARD FIRE STATION SPACE PROGRAM

Living Quarters Program		
Space Name	**Net Area**	**Space Description**
Lobby	80	Small reception with display case secured from the rest of the sation. Observable from station office.
Public Restroom	65	Located adjacent to lobby
Station Office	200	(4) workstations. storage, printer, radio. Adjacent to lobby. View to apparatus bay and lobby.
Captains Office	140	Workstation along far end wall. Conf table in center of room.
Kitchen	310	(3) 21 cu ft refigerators, 36" semi commercial gas oven/range, 220 volt plug to convert to electric inducton in the future. microwave, dishwasher, 36" high ss counters w/marine edge, integrated ss deep sink with integral drain board. Stainless steel or minimal grout tile back board. (4) 18"w full ht pantries, trash counter cabinet w/ doors, 34" high x 60" wide ss ADA counter with built-in sink to double as coffee station.
Dining	225	Table with (8) seats, notice board, house phone, magnetic white board.
Day	400	(6) lounge chairs, built-in console casework for TV and storage, display for security camera feeds, house phone.
Exercise	450	TV, high baseboards, ceiling fans, water fill station, recycled rubber floor, double doors leading to exterior patio, one wall of mirrors, 12' ceiling ht. Acoustically separated from dorm rooms.
Dorms	720	(1) ADA and (5) non-ADA single occupancy dorm rooms with (3) 30w built-in lockers, and desk with data ports. Bed reading light, (3) 30w. lockers, small night stand with power outlet below cantilevered from wall. Built-in platform bed with head board & 3-drawers. Ceiling fans.
Dorm Bathrooms	288	(2) ADA and (1) non-ADA bathrooms. Showers with synthetic stone pans/wall panels, shower curtains. 4' high tile large tile wainscotts. Terrazzo floors/coved base. Some storage for cleaning supplies.
Utility	150	House cleaning station with mop sink, base and upper cabinets, station supply, house washer and dryer
Mechanical/Electrical/IT	350	Heat pump based AC and water heating, (2) IT/Alert racks. Elec Rm sized for PV Invertors
Subtotal Net Area	**9,034 Sq.Ft.**	
Circulation / Structure	1,265	14%
Total Gross Area	**10,299 Sq.Ft.**	

PROGRAM REQUIREMENTS

STANDARD FIRE STATION SPACE PROGRAM

Additional Area if Second Floor is Required		
Stairs	580	(2) Stairs
Fire Pole	50	2nd floor rated enclosure, 1st floor alcove
Elevator	150	2500 lb elevator and machine room
Mechanical Shafts	97	
Subtotal Net Area	877	
Circulation / Structure	123	14%
Gross Sq Ft Add	**1,000 Sq.Ft.**	
Total Gross Area	**11,299 Sq.Ft.**	

PROGRAM REQUIREMENTS

BATTALION COMMAND STATION SPACE PROGRAM

Site Program	
Space Name	**Space Description**
Site Area	Minimum of 0.75 acre, 165' minimum frontage and 165' minimum depth for single story station. Minimum of 0.65 acre, 145' minimum frontage and 165' minimum depth for two story station.
Traffic Lights	Consult Fire District if Applicable
Front Apron	35' minimum depth concrete driveway between the apparatus doors and back of sidewalk for parking fire engines, good site lines and sufficient turning radius into the street. Increase to 50' for fire trucks. To keep apparatus from bottoming out, transitions from the apron to the road should not be abrupt.
Visitor Parking	(2) visitor and (1) ADA. Provide electric vehicle charging as required by AHJ
Secure Parking	(12) employee and (1) ADA. Provide electric vehicle charging as required by AHJ.
Trash Enclosure	10' x 16' x 7' tall CMU enclosure with covering. Pair of heavy duty doors on non secure side (garbage company access) and man-door on secure side (employee access). Consult local refuse company to confirm requirements.
Vehicle Security Gate(s)	Rolling Gate or bi-fold metal gates activated by "clickers" on the apparatus, or by key pad mounted on drivers side of the approach to the gate.
Rear Apron	50' minimum depth concrete area for turning fire engines into apparatus bays. Increase to 65' for fire trucks.
Transformer	Size and location per PG&E requirements.
Switchgear	Sized and located per PG&E requirements.
Photovoltaic Panels w/batteries	Sized to provide 100% of electrical requirement during peak summerday including charging batteries for evening usage. During the majority of the year, power is supplemented by PG&E, however battery provides power at peak rate period (rate shaving). Preference is use panels to cover parking, Provide conduit and other infrastructure within the Project. The batteries and the panels themselves are to be provides as an additive alternate.
Generator	72 hour, connected to fueling station. Sized for 100% load. Conc block enclosure desired.
Fueling Station	1000 gal. diesel fuel in above grade concrete encased vault.
Apparutus Washing Area	Drain below apparatus washing area to have automatic valve which diverts what would normally be storm water to sand oil separator leading to sanitary sewer when apparatus is being washed.
Hydrants	(1) 2-1/2 wharf hydrant in rear apron
Patio(s)	Obscured from public view, and partially shaded directly accessible from exercise and day rooms. Gas and valve to barbeque (FF&E) at day room patio.
Hose Reels	(1) 100' hose reel for washing apparatus bays and trucks.
Ladder Throw	Horizontal bar on side of building for ladder throws

PROGRAM REQUIREMENTS

BATTALION COMMAND STATION SPACE PROGRAM

Apparatus Bay and Apparatus Support Program		
Space Name	**Net Area**	**Space Description**
Apparatus Bay	4,396	78.5' depth x 56" width. (3) drive-thru bays. 14'x14' appartus doors. In-swing 4-fold apparatus doors facing the street; overhead apparatus doors facing rear apron; floor trench drains running the length of apparatus; power & air drops to each apparatus; Plymovent exhaust system; Apparatus bay heating. 7'-2" high fiber reinforced wll panels around perimeter.Hand sinks activated by electric sensors, walk-off grating with drains at doors leading to vestibules. Densified burnished concrete floor. Conduit infrastructure for future EV apparatus
Front Vestibule	125	Air lock room between apparatus bay and house. Gasketed doors with door bottom at each end. 4-5' stainless steel medical sink with integral drain board, faucet activated by foot pedals. 3-4' counter with base cabinet next to drain board to unpack medical bags. Upper cabinet above sink and base cabinet. 4-5' full height cabinets for medical supplies. 3-4' alert station, incident display, ventilated walkie talkie charging base cabinet with slide-out drawers Walk-off carpet flooring.
Rear Vestibule	100	Air lock room between apparatus bay and house. Gasketed doors with door bottom at each end. Stainless steel hand sink activated by electric sensor. Ice machine. Walk-off carpet flooring.
General Storage	200	Metal FF&E storage racks for absorbal, water, extinguishing agent, and misc storage. Yard storage. Rolling hose and bottle storage racks. Flamable liquid storage cabinet;
Shop	100	5-6' length galv steel shop bench 36" high. Cabinets above and below. Locate in alcove adjacent to apparatus bay furthest from house.
Compressor	45	Small room to acoustically isolate compressors used for Plymovent and general compressed air. Could also contain fire riser.
Turnout	325	Enclosed and separately ventilated and moderately heated room for (25) 30" wide Grid Gear lockers.
Decon	160	Carcinogen cleaning station. 60 lb extractor with rear access for hose and drains (shelves, or space for pump & cleaning agents) 2'6 deep x 5' wide area with rod for hang-drying PPE, mop floor sink with clips to attach mops and squeegees. Standing ss sink w/drain board for cleaning helmets, masks, SCBA tanks and other contaminated items. Good air circulation
SCBA	140	SCBA filling station. Outside air vent. Oxygen cascade not required
Restroom	65	For usage without entering house

PROGRAM REQUIREMENTS

BATTALION COMMAND STATION SPACE PROGRAM

Living Quarters Program		
Space Name	**Net Area**	**Space Description**
Lobby	80	Small reception with display case secured from the rest of the sation. Observable from station office.
Public Restroom	65	Located adjacent to lobby
Station Office	200	(4) workstations. storage, printer, radio. Adjacent to lobby. View to apparatus bay and lobby.
Captains Office	140	Workstation along far end wall. Conf table in center of room.
BC Office	160	Workstation along far end wall. Conf table in center of room. Door with sidelight
BC Dorm	120	(3) 48w. lockers, small night stand with power outlet below cantilevered from wall, built-in platform bed with head board & 3-drawers, ceiling fans.
BC Bathroom	108	Private bathroom accessible from BC Dorm. Shower with synthetic stone pans/wall panels, shower curtain. 4' high tile large tile wainscotts. Terrazzo floors/coved base. Some storage for cleaning supplies.
Kitchen	310	(3) 21 cu ft refigerators, 36" semi commercial gas oven/range, 220 volt plug to convert to electric inducton in the future. microwave, dishwasher, 36" high ss counters w/marine edge, integrated ss deep sink with integral drain board. Stainless steel or minimal grout tile back board. (4) 18"w full ht pantries, trash counter cabinet w/ doors, 34" high x 60" wide ss ADA counter with built-in sink to double as coffee station.
Dining	225	Table with (8) seats, notice board, house phone, magnetic white board.
Day	400	(6) lounge chairs, built-in console casework for TV and storage, display for security camera feeds, house phone.
Exercise	450	TV, high baseboards, ceiling fans, water fill station, recycled rubber floor, double doors leading to exterior patio, one wall of mirrors, 12' ceiling ht. Acoustically separated from dorm rooms.
Dorms	720	(1) ADA and (5) non-ADA single occupancy dorm rooms with (3) 30w built-in lockers, and desk with data ports. Bed reading light, (3) 30w. lockers, small night stand with power outlet below cantilevered from wall. Built-in platform bed with head board & 3-drawers. Ceiling fans.
Dorm Bathrooms	288	(2) ADA and (1) non-ADA bathrooms. Showers with synthetic stone pans/wall panels, shower curtains. 4' high tile large tile wainscotts. Terrazzo floors/coved base. Some storage for cleaning supplies.
Utility	150	House cleaning station with mop sink, base and upper cabinets, station supply, house washer and dryer
Mechanical/Electrical/IT	350	Heat pump based AC and water heating, (2) IT/Alert racks. Elec Rm sized for PV Invertors
Subtotal Net Area	**9,422 Sq.Ft.**	
Circulation / Structure	1,319	14%
Total Gross Area	**10,741 Sq.Ft.**	**Single Story**

PROGRAM REQUIREMENTS

BATTALION COMMAND STATION SPACE PROGRAM

Additional Area if Second Floor is Required		
Stairs	580	(2) Stairs
Fire Pole	50	2nd floor rated enclosure, 1st floor alcove
Elevator	150	2500 lb elevator and machine room
Mechanical Shafts	97	
Net Subtotal	**877 Sq.Ft.**	
Circulation / Structure	123	14%
Gross Sq Ft Add	**1,000 Sq.Ft.**	
Total Gross Area	**11,741 Sq.Ft.**	**Two Story**

PROGRAM REQUIREMENTS

ADMINISTRATION BUILDING SPACE PROGRAM

Site Program	
Space Name	**Space Description**
Site Area	Minimum of 1 acre, 13,068 sf (30%) landscape) + 18,200 sf parking (52 cars) + 5400 sf apparatus parking (2 engine, 1 truck) + 7,801sf building for single story building. Minimum of 0.9 acre, 11,761 sf (30%) landscape + 18,200 sf parking (52 cars) + 5400 sf apparatus parking (2 engine, 1 truck) + 4,495 building footprint for 2 story building. Parking for admin. Overnight for 12 secure. 3 apparatus parking in non-secure
Unsecured Parking	(27) Employee + (7) visitor + (2) accessible = (36) spaces. (2) 30' deep x 12' wide + (1) 55' deep x 12' wide apparatus parking. Electric vehicle charging as required by AHJ. (2) 32' deep x 12' wide engine parking spaces + (1) 59' deep x 12' wide truck parking space.
Secured Parking	(15) fleet vehicles + (1) accessible. Security fence with sliding or bi-fold gates. Electric vehicle charging as required by AHJ.
Trash Enclosure	10' x 16' x 7' tall CMU enclosure with covering. Pair of heavy duty doors on non secure side (garbage company access) and man-door on secure side (employee access). Consult local refuse company to confirm requirements.
Switchgear	Sized and located per PG&E requirements.
Photovoltaic Panels w/batteries	Sized to provide 100% of electrical requirement during peak summer day including charging batteries for evening usage. During the majority of the year, power is supplemented by PG&E, however battery provides power at peak rate period (rate shaving).
Generator	72 hour, connected to fueling station. Sized for 100% load. Conc block enclosure desired.

Office Area				
Space Name	**Quantity**	**SF/Unit**	**Total Net SF**	**Space Description**
Lobby	1	400	400	
Reception	1	150	150	16 linear ft of counter with (1) 8x8 work station.
Work Stations	12	65	780	8x8 open office workstations
Fire Chief	1	300	300	
Large Private Office	4	180	720	
Private Office	9	120	1,080	
Large Conference Room	1	750	750	Seating for 25
Medium Conference Room	1	360	360	Seating for 12
Print/Mail	1	150	150	
Kitchen / Break Rm	1	240	240	
Storage	1	100	100	
Restrooms	2	200	400	(1) Men, (1) Womens
Janitors Closet	1	50	50	
MEP / IT	1	290	290	
Subtotal Net Area			**5,770 Sq.Ft.**	
Circulation / Structure			2,597	45%
Total Gross Area			**8,367 Sq.Ft.**	**Single Story**

PROGRAM REQUIREMENTS

ADMINISTRATION BUILDING SPACE PROGRAM

Additional Area if Second Floor is Required		
Stairs	580	(2) Stairs
Elevator	150	2500 lb elevator and machine room
Mechanical Shafts	90	
Subtotal Net Area	**820 Sq.Ft.**	
Circulation / Structure	369	45%
Gross Sq Ft Add	**1,189 Sq.Ft.**	

Gross Sq Ft- 2 Story	**9,556 Sq.Ft.**	**Two Story**

5. COST ESTIMATES

COST ESTIMATES

INTRODUCTION

Conceptual costs were estimated using a rough order of magnitude. Hard costs are based on historical cost data from similar building types and applied to the given area of the building or space. Contingencies, mark-ups for general conditions, over-head and profit, and insurance and bonds are added to arrive at a total construction cost. Non-construction costs, or soft costs, that include items such as design services, project management, permits and fees, inspections, taxes, PR, etc., are then added to arrive at a total estimated cost for the project.

For new construction, estimates include costs for both single and two story design options to provide flexibility during site assessment and land purchases. Renovation costs were based on conceptual floor plans (Appendix A) and include the capital renewal costs as shown in the facility condition assessment (Appendix B).

Due to the preliminary nature and uncertainty of SCFD's delivery and construction schedule, the escalation of costs and products over time, calculated to the midpoint of construction, were not included in the estimates for renovation or new construction.

COST ESTIMATES

STATION ESTIMATE SUMMARY

The following summaries provide construction costs for capital improvement, renovation and new construction. More detailed cost estimate information is provided in the latter part of this section.

Capitol Improvement Work*

Description of Work	
Remodel Station 1	$2,498,288
Remodel Station 3	$1,408,926
Remodel Station 7	$2,661,592
Remodel Station 8	$772,679
Remodel Station 10	$1,747,086
Total Estimated Cost:	**$9,088,571**

Renovation Work* (includes captital improvements work)

Description of Work	
Remodel Station 1	$4,139,221
Remodel Station 3	$2,468,329
Remodel Station 7	$5,000,245
Remodel Station 8	$3,389,937
Remodel Station 10 (Option A)	$6,245,264
Remodel Station 10 (Option B)	$6,625,350
Total Estimated Cost:	**$27,868,346**

New Construction*

Description of Work	Single-story	Two-story
New Station 9**	$15,000,000	$15,000,000
New Station 2	$18,008,471	$22,246,908
New Station 4	$18,008,471	$22,246,908
New Admin Building	$9,833,442	$11,573,236
Total Estimated Cost:	**$60,850,384**	**$71,067,052**

* All estimates are in 2024 dollars.

** 15 Million dollars represents the SCFD's obligation for a combined Fire / Police station.

COST ESTIMATES

FACILITY CONDITION ASSESSMENT

The summary table below shows relative capital renewal costs for each station based on today's dollars and escalated by priorities one through six. For more information, refer to the full facilities assessment in Appendix B.

Capital Improvement Work

Station Location	Current Capital Renewal Cost (2024)	Costs by Priority						Total Capital Renewal Cost (Escalated)	Replacement Costs	FCI	Condition Score	Condition Rating
		Priority 1 8% Escalation	Priority 2 13% Escalation	Priority 3 18% Escalation	Priority 4 23% Escalation	Priority 5 28% Escalation	Priority 6 33% Escalation					
Fire Station 1	$2,498,288	$645,700	$17,640	$94,710	$291,280	$1,708,350	$309,980	$3,067,660	$31,125,000	0.080	B	FAIR
Fire Station 3	$1,408,926	$351,670	$193,690	$1,990	$6,410	$1,139,190	$19,930	$1,712,880	$16,089,000	0.088	B	FAIR
Fire Station 7	$2,661,592	$1,725,310	$373,270	$445,510	$5,540	$422,560	$28,710	$3,000,900	$20,159,000	0.132	C	POOR
Fire Station 8	$772,679	$466,910	$123,540	$119,050	$3,160	$101,890	$63,820	$878,370	$9,834,000	0.079	B	FAIR
Fire Station 10	$1,747,086	$653,910	$69,810	$40,890	$1,103,710	$110,720	$81,570	$2,060,610	$15,038,000	0.116	C	POOR
Total Cost	**$9,088,571**	**$3,843,500**	**$777,950**	**$702,150**	**$1,410,100**	**$3,482,710**	**$504,010**	**$10,720,420**	**$92,245,000**			

The following definitions provide clarification to the terms used in the summary table above.

CURRENT CAPITAL RENEWAL COST:

Estimated sum of current capital improvement costs for an assessed facility.

TOTAL CAPITAL RENEWAL COST:

Estimated sum of all Capital Renewal Costs including escalation.

REPLACEMENT COST:

Estimated current cost to replace the facility in kind.

FACILITY CONDITION INDEX (FCI):

Standard asset management tool which measures the facility's current condition by dividing the capital renewal cost by the replacement cost.

ESTIMATE FOR RENOVATION

FIRE STATION NO. 1

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEFICIENCY COSTS, CAPITAL RENEWAL	1	LS	$1,126,497.00	$1,126,497
	NEW OR INFILL INTERIOR PARTITION	120	SF	$30.00	$3,600
	INTERIOR DOOR, FRAME, HARDWARE	1	EA	$4,000.00	$4,000
	INTERIOR DOOR, FRAME, HARDWARE, PAIR (CUT-IN)	1	EA	$9,000.00	$9,000
	INT. DOOR FRAME SEALS	4	EA	$250.00	$1,000
	INT. DOOR FRAME SEALS, PAIR	1	EA	$400.00	$400
	MISC. INTERIOR CONSTRUCTION	18,250	SF	$5.00	$91,250
	LOCKERS	9	EA	$885.00	$7,965
	HAND SANITIZERS	5	EA	$200.00	$1,000
	PAINT INTERIOR WALLS	1,178	SF	$2.00	$2,356
	RUBBER BASE	150	LF	$5.30	$795
	SEALED CONCRETE	160	SF	$2.25	$360
	EPOXY FLOOR	171	SF	$20.00	$3,420
	VCT FLOORING	141	SF	$6.80	$959
	PAINT GYP BOARD CEILINGS	470	SF	$2.00	$940
	ACOUSTICAL CEILING	463	SF	$10.00	$4,630
	MISC FINISHES, WALL, FLOOR, CEILING	18,250	SF	$40.00	$730,000
	REMOVE AND REPLACE KITCHEN SINK	1	EA	$3,700.00	$3,700
	WASHER BOX, ROUGH-IN	1	EA	$5,500.00	$5,500
	FLOOR DRAIN	2	EA	$3,500.00	$7,000
	DOMESTIC WATER	35	LF	$50.00	$1,750
	SANITARY SEWER	35	LF	$75.00	$2,625
	HEAT PUMP SYSTEM, SMALL ROOM	315	SF	$50.00	$15,750
	ELECTRICAL, WASHER CONNECTION	1	EA	$1,000.00	$1,000
	ELECTRICAL, DRYER CONNECTION	1	EA	$1,500.00	$1,500
	WASHER, RELOCATE	1	EA	$250.00	$250
	DRYER, RELOCATE	1	EA	$250.00	$250
	WALK OFF MAT	6	EA	$500.00	$3,000
	BASE CABINET ADA MODIFICATIONS	1	LS	$5,000.00	$5,000
	REMOVE AND REPLACE SLAB ON GRADE	70	SF	$75.00	$5,250
	MISC DEMOLITION	18,250	SF	$1.00	$18,250
SUBTOTAL HARD COSTS				$112.82	**$2,058,997**
CONTINGENCY					
	ESTIMATING CONTINGENCY	20.00%			**$411,799**
SUBTOTAL CONSTRUCTION COSTS					**$2,470,796**
SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]					**$3,021,329**
ESCALATION		0.00%			**$0**
SUBTOTAL CONSTRUCTION COSTS				$165.55	**$3,021,329**
CONSTRUCTION CONTINGENCY		7.00%			**$211,493**
TOTAL CONSTRUCTION COSTS				$177.14	**$3,232,822**
NON-CONSTRUCTION COSTS		30.00%			**$906,399**
TOTAL PROJECT COSTS:				$226.81 / Sq.Ft.	**$4,139,221**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR RENOVATION

FIRE STATION NO. 3

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	OUTDOOR EXERCISE WITH CANOPY	140	SF	$250.00	$35,000
	DEFICIENCY COSTS, CAPITAL RENEWAL	1	LS	$635,295.00	$635,295
	EXTERIOR DOOR, PAIR, GLASS	1	EA	$14,000.00	$14,000
	OVERHEAD DOOR	2	EA	$15,000.00	$30,000
	INT. DOOR FRAME SEALS	1	EA	$250.00	$250
	INT. DOOR FRAME SEALS, PAIR	2	EA	$400.00	$800
	MISC. INTERIOR CONSTRUCTION	9,465	SF	$5.00	$47,325
	MISC FINISHES, WALL, FLOOR, CEILING	9,465	SF	$40.00	$378,600
	NEW SINK	2	EA	$3,200.00	$6,400
	REMOVE AND REPLACE KITCHEN SINK	1	EA	$3,700.00	$3,700
	FIXTURE ROUGH-INS, SLAB, WALL	3	EA	$5,500.00	$16,500
	FIXTURE TIE-IN SANITARY AND WATER	2	EA	$15,000.00	$30,000
	ELECTRICAL, WASHER CONNECTION	1	EA	$1,000.00	$1,000
	ELECTRICAL, DRYER CONNECTION	1	EA	$1,500.00	$1,500
	WALK OFF MAT	6	EA	$500.00	$3,000
	BASE CABINET ADA MODIFICATIONS	1	LS	$5,000.00	$5,000
	REMOVE 4 FOLD DOORS	2	EA	$5,000.00	$10,000
	MISC DEMOLITION	9,465	SF	$1.00	$9,465
	SUBTOTAL HARD COSTS			$129.72	**$1,227,835**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	20.00%			**$245,567**
	SUBTOTAL CONSTRUCTION COSTS				**$1,473,402**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$1,801,700**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$190.35	**$1,801,700**
	CONSTRUCTION CONTINGENCY	7.00%			**$126,119**
	TOTAL CONSTRUCTION COSTS			$203.68	**$1,927,819**
	NON-CONSTRUCTION COSTS	30.00%			**$540,510**
	TOTAL PROJECT COSTS:			$260.78 / Sq.Ft.	**$2,468,329**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR RENOVATION

FIRE STATION NO. 7

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	PORTABLE/MODULAR BATHROOMS	1	LS	$200,000.00	$200,000
	GENERAL SITEWORK FOR PORTABLE /MODULAR BATHROOMS	1	LS	$100,000.00	$100,000
	DEFICIENCY COSTS, CAPITAL RENEWAL	1	LS	$1,200,132.00	$1,200,132
	CONVERT STORAGE TO UTILITY ROOM	105	SF	$600.00	$63,000
	CONVERT RESTROOMS AND RADIO TO BATHROOMS	215	SF	$850.00	$182,750
	RENOVATE OFFICE TO OPEN OFFICE	145	SF	$250.00	$36,250
	NEW OR INFILL INTERIOR PARTITION	550	SF	$30.00	$16,500
	INTERIOR DOOR, FRAME, HARDWARE	2	EA	$4,000.00	$8,000
	INT. DOOR FRAME SEALS	2	EA	$250.00	$500
	MISC. INTERIOR CONSTRUCTION	8,060	SF	$10.00	$80,600
	LOCKERS	1	EA	$885.00	$885
	MIRROR	184	SF	$40.00	$7,360
	HAND SANITIZERS	2	EA	$200.00	$400
	PAINT INTERIOR WALLS	1,415	SF	$2.00	$2,830
	CARPET	280	SF	$10.00	$2,800
	RUBBER BASE	180	LF	$5.30	$954
	EXERCISE FLOORING	440	SF	$15.00	$6,600
	ACOUSTICAL CEILING	720	SF	$12.00	$8,640
	MISC FINISHES, WALL, FLOOR, CEILING	8,060	SF	$40.00	$322,400
	NEW MOP SINK	1	EA	$3,000.00	$3,000
	NEW SINK	1	EA	$3,200.00	$3,200
	REMOVE AND REPLACE KITCHEN SINK	1	EA	$3,700.00	$3,700
	FIXTURE ROUGH-INS, SLAB, WALL	4	EA	$5,500.00	$22,000
	WASHER BOX, ROUGH-IN	1	EA	$5,500.00	$5,500
	TRENCH DRAIN	10	LF	$250.00	$2,500
	FIXTURE TIE-IN SANITARY AND WATER	2	EA	$15,000.00	$30,000
	EXHAUST FAN	1	EA	$3,500.00	$3,500
	SCBA STATION OUTSIED AIR INTAKE	1	EA	$5,000.00	$5,000
	MEP MODIFICATIONS FOR OFFICE, DORM EXERCISE CONVERSION	720	SF	$100.00	$72,000
	ELECTRICAL, WASHER CONNECTION	1	EA	$1,000.00	$1,000
	ELECTRICAL, DRYER CONNECTION	1	EA	$1,500.00	$1,500
	CEILING FAN	2	EA	$4,500.00	$9,000
	WASHER/EXTRACTOR	1	EA	$10,000.00	$10,000
	DRYER	1	EA	$6,000.00	$6,000
	WALK OFF MAT	2	EA	$500.00	$1,000
	BASE CABINET ADA MODIFICATIONS	1	LS	$5,000.00	$5,000
	DEMO INTERIOR CONSTRUCTION	750	SF	$30.00	$22,500
	MISC DEMOLITION	8,060	SF	$5.00	$40,300
	SUBTOTAL HARD COSTS			$308.60	**$2,487,301**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	20.00%			**$497,460**
	SUBTOTAL CONSTRUCTION COSTS				**$2,984,761**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$3,649,814**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$452.83	**$3,649,814**
	CONSTRUCTION CONTINGENCY	7.00%			**$255,487**
	TOTAL CONSTRUCTION COSTS			$484.53	**$3,905,301**
	NON-CONSTRUCTION COSTS	30.00%			**$1,094,944**
	TOTAL PROJECT COSTS:			$620.38 / Sq.Ft.	**$5,000,245**

[1] Markups include general conditions, overhead and profit, insurance and bonds.
See Appendix A for related floor plans for this estimate.

ESTIMATE FOR RENOVATION

FIRE STATION NO. 8

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEFICIENCY COSTS, CAPITAL RENEWAL	1	LS	$348,407.00	$348,407
	CONVERT/RECONFIGURE DORM, BATHROOM, UTILITY AREA	930	SF	$850.00	$790,500
	CONVERT CONTROL ROOM TO OFFICE	125	SF	$300.00	$37,500
	EXTERIOR DOOR, PAIR, GLASS	1	EA	$14,000.00	$14,000
	NEW OR INFILL INTERIOR PARTITION	380	SF	$30.00	$11,400
	INTERIOR DOOR, FRAME, HARDWARE	2	EA	$4,000.00	$8,000
	INT. DOOR FRAME SEALS	3	EA	$250.00	$750
	MISC. INTERIOR CONSTRUCTION	4,790	SF	$10.00	$47,900
	MIRROR	80	SF	$40.00	$3,200
	PAINT INTERIOR WALLS	730	SF	$2.00	$1,460
	RUBBER BASE	115	LF	$5.30	$610
	VCT FLOORING	25	SF	$6.80	$170
	EXERCISE FLOORING	340	SF	$15.00	$5,100
	ACOUSTICAL CEILING	340	SF	$12.00	$4,080
	MISC FINISHES, WALL, FLOOR, CEILING	4,790	SF	$40.00	$191,600
	NEW MOP SINK	1	EA	$3,000.00	$3,000
	NEW SINK	3	EA	$3,200.00	$9,600
	REMOVE AND REPLACE KITCHEN SINK	1	EA	$3,700.00	$3,700
	FIXTURE ROUGH-INS, SLAB, WALL	5	EA	$5,500.00	$27,500
	TRENCH DRAIN	8	LF	$250.00	$2,000
	FIXTURE TIE-IN SANITARY AND WATER	2	EA	$15,000.00	$30,000
	SCBA STATION OUTSIED AIR INTAKE	1	EA	$5,000.00	$5,000
	MEP MODIFICATIONS FOR EXERCISE, DECON CONVERSION	515	SF	$100.00	$51,500
	ELECTRICAL, WASHER CONNECTION	1	EA	$1,000.00	$1,000
	ELECTRICAL, DRYER CONNECTION	1	EA	$1,500.00	$1,500
	CEILING FAN	2	EA	$4,500.00	$9,000
	WASHER/EXTRACTOR	1	EA	$10,000.00	$10,000
	DRYER	1	EA	$6,000.00	$6,000
	WALK OFF MAT	3	EA	$500.00	$1,500
	BASE CABINET ADA MODIFICATIONS	1	LS	$5,000.00	$5,000
	DEMO INTERIOR CONSTRUCTION	1,045	SF	$30.00	$31,350
	MISC DEMOLITION	4,790	SF	$5.00	$23,950
	SUBTOTAL HARD COSTS			$352.04	**$1,686,277**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	20.00%			**$337,255**
	SUBTOTAL CONSTRUCTION COSTS				**$2,023,532**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$2,474,407**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$516.58	**$2,474,407**
	CONSTRUCTION CONTINGENCY	7.00%			**$173,208**
	TOTAL CONSTRUCTION COSTS			$552.74	**$2,647,615**
	NON-CONSTRUCTION COSTS	30.00%			**$742,322**
	TOTAL PROJECT COSTS:			$707.71 / Sq.Ft.	**$3,389,937**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR RENOVATION

FIRE STATION NO. 10 (OPTION A)

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEFICIENCY COSTS, CAPITAL RENEWAL	1	LS	$787,774.00	$787,774
	CONVERT RESTROOM TO JANITOR, BATHROOM, HALLWAY	260	SF	$600.00	$156,000
	CONVERT SHOP TO SCBA	80	SF	$350.00	$28,000
	CONVERT SCBA TO UTILITY ROOM	120	SF	$600.00	$72,000
	CONVERT TRAINING TO DORM BATH AND RESTRROM	1,060	SF	$850.00	$901,000
	RENOVATE RESTROOM TO ELEVATOR MACHINE AND HALLWAY	360	SF	$500.00	$180,000
	EXTERIOR DOOR, PAIR, GLASS	1	EA	$14,000.00	$14,000
	NEW OR INFILL INTERIOR PARTITION	240	SF	$30.00	$7,200
	INTERIOR DOOR, FRAME, HARDWARE	1	EA	$4,000.00	$4,000
	INT. DOOR FRAME SEALS	2	EA	$250.00	$500
	MISC. INTERIOR CONSTRUCTION	8,865	SF	$10.00	$88,650
	LOCKERS	15	EA	$885.00	$13,275
	HANSD SANITIZERS	2	EA	$200.00	$400
	PAINT INTERIOR WALLS	385	SF	$2.00	$770
	SEALED CONCRETE	135	SF	$2.25	$304
	ACOUSTICAL CEILING	135	SF	$12.00	$1,620
	MISC FINISHES, WALL, FLOOR, CEILING	8,865	SF	$40.00	$354,600
	ADD ELEVATOR, COMPLETE	1	LS	$300,000.00	$300,000
	NEW MOP SINK	1	EA	$3,000.00	$3,000
	NEW SINK	1	EA	$3,200.00	$3,200
	REMOVE AND REPLACE KITCHEN SINK	1	EA	$3,700.00	$3,700
	FIXTURE ROUGH-INS, SLAB, WALL	3	EA	$5,500.00	$16,500
	TRENCH DRAIN	8	LF	$250.00	$2,000
	FIXTURE TIE-IN SANITARY AND WATER	2	EA	$15,000.00	$30,000
	MEP MODIFICATIONS FOR TURNOUT	135	SF	$100.00	$13,500
	ELECTRICAL, WASHER CONNECTION	1	EA	$1,000.00	$1,000
	ELECTRICAL, DRYER CONNECTION	1	EA	$1,500.00	$1,500
	WASHER/EXTRACTOR	1	EA	$10,000.00	$10,000
	DRYER	1	EA	$6,000.00	$6,000
	WALK OFF MAT	2	EA	$500.00	$1,000
	BASE CABINET ADA MODIFICATIONS	1	LS	$5,000.00	$5,000
	DEMO INTERIOR CONSTRUCTION	1,860	SF	$30.00	$55,800
	MISC DEMOLITION	8,865	SF	$5.00	$44,325
	SUBTOTAL HARD COSTS			$350.44	**$3,106,618**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	20.00%			**$621,324**
	SUBTOTAL CONSTRUCTION COSTS				**$3,727,942**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$4,558,587**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$514.22	**$4,558,587**
	CONSTRUCTION CONTINGENCY	7.00%			**$319,101**
	TOTAL CONSTRUCTION COSTS			$550.22	**$4,877,688**
	NON-CONSTRUCTION COSTS	30.00%			**$1,367,576**
	TOTAL PROJECT COSTS:			$704.49 / Sq.Ft.	**$6,245,264**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR RENOVATION

FIRE STATION NO. 10 (OPTION B)

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEFICIENCY COSTS, CAPITAL RENEWAL	1	LS	$787,774.00	$787,774
	CONVERT LAUNDRY TO HALLWAY	125	SF	$300.00	$37,500
	NEW ADDITION, EXERCISE, STORAGE, SCBA - LEVEL 1	610	SF	$1,000.00	$610,000
	NEW ADDITION, 3 DORMS, HALLWAY - LEVEL 2	610	SF	$1,000.00	$610,000
	CONVERT SCBA TO STORAGE	75	SF	$250.00	$18,750
	CONVERT DORM, BATH TO HALLWAY, STORAGE, BATH	325	SF	$850.00	$276,250
	EXTERIOR DOOR, PAIR, GLASS	1	EA	$14,000.00	$14,000
	NEW OR INFILL INTERIOR PARTITION	280	SF	$30.00	$8,400
	INTERIOR DOOR, FRAME, HARDWARE	1	EA	$4,000.00	$4,000
	INT. DOOR FRAME SEALS	2	EA	$250.00	$500
	MISC. INTERIOR CONSTRUCTION	8,865	SF	$10.00	$88,650
	LOCKERS	10	EA	$885.00	$8,850
	HAND SANITIZERS	2	EA	$200.00	$400
	PAINT INTERIOR WALLS	670	SF	$2.00	$1,340
	SEALED CONCRETE	190	SF	$2.25	$428
	ACOUSTICAL CEILING	190	SF	$12.00	$2,280
	MISC FINISHES, WALL, FLOOR, CEILING	8,865	SF	$40.00	$354,600
	ADD ELEVATOR, COMPLETE	1	LS	$300,000.00	$300,000
	NEW MOP SINK	1	EA	$3,000.00	$3,000
	NEW SINK	1	EA	$3,200.00	$3,200
	REMOVE AND REPLACE KITCHEN SINK	1	EA	$3,700.00	$3,700
	FIXTURE ROUGH-INS, SLAB, WALL	3	EA	$5,500.00	$16,500
	TRENCH DRAIN	8	LF	$250.00	$2,000
	FIXTURE TIE-IN SANITARY AND WATER	2	EA	$15,000.00	$30,000
	MEP MODIFICATIONS FOR TURNOUT	190	SF	$100.00	$19,000
	ELECTRICAL, WASHER CONNECTION	1	EA	$1,000.00	$1,000
	ELECTRICAL, DRYER CONNECTION	1	EA	$1,500.00	$1,500
	WASHER/EXTRACTOR	1	EA	$10,000.00	$10,000
	DRYER	1	EA	$6,000.00	$6,000
	WALK OFF MAT	2	EA	$500.00	$1,000
	BASE CABINET ADA MODIFICATIONS	1	LS	$5,000.00	$5,000
	DEMO INTERIOR CONSTRUCTION	858	SF	$30.00	$25,740
	MISC DEMOLITION	8,865	SF	$5.00	$44,325
	SUBTOTAL HARD COSTS			$321.69	**$3,295,687**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	20.00%			**$659,137**
	SUBTOTAL CONSTRUCTION COSTS				**$3,954,824**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$4,836,022**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$472.04	**$4,836,022**
	CONSTRUCTION CONTINGENCY	7.00%			**$338,522**
	TOTAL CONSTRUCTION COSTS			$505.08	**$5,174,544**
	NON-CONSTRUCTION COSTS	30.00%			**$1,450,807**
	TOTAL PROJECT COSTS:			$646.69 / Sq.Ft.	**$6,625,350**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR NEW CONSTRUCTION

STANDARD FIRE STATION NO. 2, 4, 9

Single Story

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEMOLISH (E) STRUCTURES	10,299	SF	$20.00	$205,980
	GENERAL SITEWORK	10,299	SF	$175.00	$1,802,325
	BUILDING	10,299	SF	$1,025.00	$10,556,475
	SUBTOTAL HARD COSTS			$1,220.00	**$12,564,780**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	5.00%			**$628,239**
	SUBTOTAL CONSTRUCTION COSTS				**$13,193,019**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$13,193,019**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$1,281.00	**$13,193,019**
	CONSTRUCTION CONTINGENCY	5.00%			**$659,651**
	TOTAL CONSTRUCTION COSTS			$1,345.05	**$13,852,670**
	NON-CONSTRUCTION COSTS	30.00%			**$4,155,801**
	TOTAL PROJECT COSTS:			$1,748.57 / Sq.Ft.	**$18,008,471**

Two Story

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEMOLISH (E) STRUCTURES	11,299	SF	$20.00	$225,980
	GENERAL SITEWORK	11,299	SF	$175.00	$1,977,325
	BUILDING	11,299	SF	$1,178.75	$13,318,696
	SUBTOTAL HARD COSTS			$1,373.75	**$15,522,001**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	5.00%			**$776,100**
	SUBTOTAL CONSTRUCTION COSTS				**$16,298,101**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$16,298,101**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$1,442.44	**$16,298,101**
	CONSTRUCTION CONTINGENCY	5.00%			**$814,905**
	TOTAL CONSTRUCTION COSTS			$1,514.56	**$17,113,006**
	NON-CONSTRUCTION COSTS	30.00%			**$5,133,902**
	TOTAL PROJECT COSTS:			$1,968.93 / Sq.Ft.	**$22,246,908**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR NEW CONSTRUCTION

BATTALION COMMAND STATION

Single Story

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEMOLISH (E) STRUCTURES	10,741	SF	$20.00	$214,820
	GENERAL SITEWORK	10,741	SF	$175.00	$1,879,675
	BUILDING	10,741	SF	$1,025.00	$11,009,525
	SUBTOTAL HARD COSTS			$1,220.00	**$13,104,020**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	5.00%			**$655,201**
	SUBTOTAL CONSTRUCTION COSTS				**$13,759,221**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$13,759,221**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$1,281.00	**$13,759,221**
	CONSTRUCTION CONTINGENCY	5.00%			**$687,961**
	TOTAL CONSTRUCTION COSTS			$1,345.05	**$14,447,182**
	NON-CONSTRUCTION COSTS	30.00%			**$4,334,155**
	TOTAL PROJECT COSTS:			$1,748.57/ Sq.Ft.	**$18,781,337**

Two Story

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEMOLISH (E) STRUCTURES	11,741	SF	$20.00	$234,820
	GENERAL SITEWORK	11,741	SF	$175.00	$2,054,675
	BUILDING	11,741	SF	$1,178.75	$13,839,704
	SUBTOTAL HARD COSTS			$1,373.75	**$16,129,199**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	5.00%			**$806,460**
	SUBTOTAL CONSTRUCTION COSTS				**$16,935,659**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$16,935,659**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$1,442.44	**$16,935,659**
	CONSTRUCTION CONTINGENCY	5.00%			**$846,783**
	TOTAL CONSTRUCTION COSTS			$1,514.56	**$17,782,442**
	NON-CONSTRUCTION COSTS	30.00%			**$5,334,732**
	TOTAL PROJECT COSTS:			$1,968.93/ Sq.Ft.	**$23,117,174**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

ESTIMATE FOR NEW CONSTRUCTION

ADMINISTRATION BUILDING

Single Story

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEMOLISH (E) STRUCTURES	8,367	SF	$20.00	$167,340
	GENERAL SITEWORK	8,367	SF	$175.00	$1,464,225
	BUILDING	8,367	SF	$625.00	$5,229,375
	SUBTOTAL HARD COSTS			$820.00	**$6,860,940**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	5.00%			**$343,047**
	SUBTOTAL CONSTRUCTION COSTS				**$7,203,987**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$7,203,987**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$861.00	**$7,203,987**
	CONSTRUCTION CONTINGENCY	5.00%			**$360,199**
	TOTAL CONSTRUCTION COSTS			$904.05	**$7,564,186**
	NON-CONSTRUCTION COSTS	30.00%			**$2,269,256**
	TOTAL PROJECT COSTS:			$1,175.27 / Sq.Ft.	**$9,833,442**

Two Story

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
	DEMOLISH (E) STRUCTURES	9,556	SF	$20.00	$191,120
	GENERAL SITEWORK	9,556	SF	$175.00	$1,672,300
	BUILDING	9,556	SF	$650.00	$6,211,400
	SUBTOTAL HARD COSTS			$845.00	**$8,074,820**
	CONTINGENCY				
	ESTIMATING CONTINGENCY	5.00%			**$403,741**
	SUBTOTAL CONSTRUCTION COSTS				**$8,478,561**
	SUBTOTAL CONSTRUCTION COSTS & MARK-UPS [1]				**$8,478,561**
	ESCALATION	0.00%			**$0**
	SUBTOTAL CONSTRUCTION COSTS			$887.25	**$8,478,561**
	CONSTRUCTION CONTINGENCY	5.00%			**$423,928**
	TOTAL CONSTRUCTION COSTS			$931.61	**$8,902,489**
	NON-CONSTRUCTION COSTS	30.00%			**$2,670,747**
	TOTAL PROJECT COSTS:			$1,211.10 / Sq.Ft.	**$11,573,236**

[1] Markups include general conditions, overhead and profit, insurance and bonds.

See Appendix A for related floor plans for this estimate.

STATION COST & SCHEDULING

INTRODUCTION

Preliminary construction costs and schedules have been developed to phase the construction for replacing or renovating eight district fire stations over a 13-year period. These estimates are flexible and expected to evolve based on the SCFD's changing needs and funding capabilities. The projects are planned to utilize a Design-Build delivery system, organized into six distinct phases: pre-construction, procurement of a design-build entity (DBE), design, permitting, construction, and project close-out. Each phase is detailed in a month-by-month schedule, with the order prioritized based on recommended needs to ensure the most critical projects are addressed first.

The chart below shows station construction by priority. Budget 1 includes single story options and a combined police fire facility for Station 9. Budget 2 includes two story options for new construction and a stand-alone facility for Station 9.

Station Priority	Description of Work	Budget 1	Budget 2
1	New Station 9	$15,000,000 [1]	$22,246,908 [3]
2	New Station 2	$18,008,471 [2]	$22,246,908 [3]
3	New Station 4	$18,008,471 [2]	$22,246,908 [3]
4	New Admin Building	$9,833,442 [2]	$11,573,236 [3]
5	Remodel Station 7	$5,000,245	$5,000,245
6	Remodel Station 8	$3,389,937	$3,389,937
7	Remodel Station 10	$6,245,264 [4]	$6,625,350 [5]
8	Remodel Station 1	$4,139,221	$4,139,221
9	Remodel Station 3	$2,468,329	$2,468,329
		$82,093,380	**$99,937,042**

[1] Fire District's cost obligation for combined police fire station.

[2] Single story building.

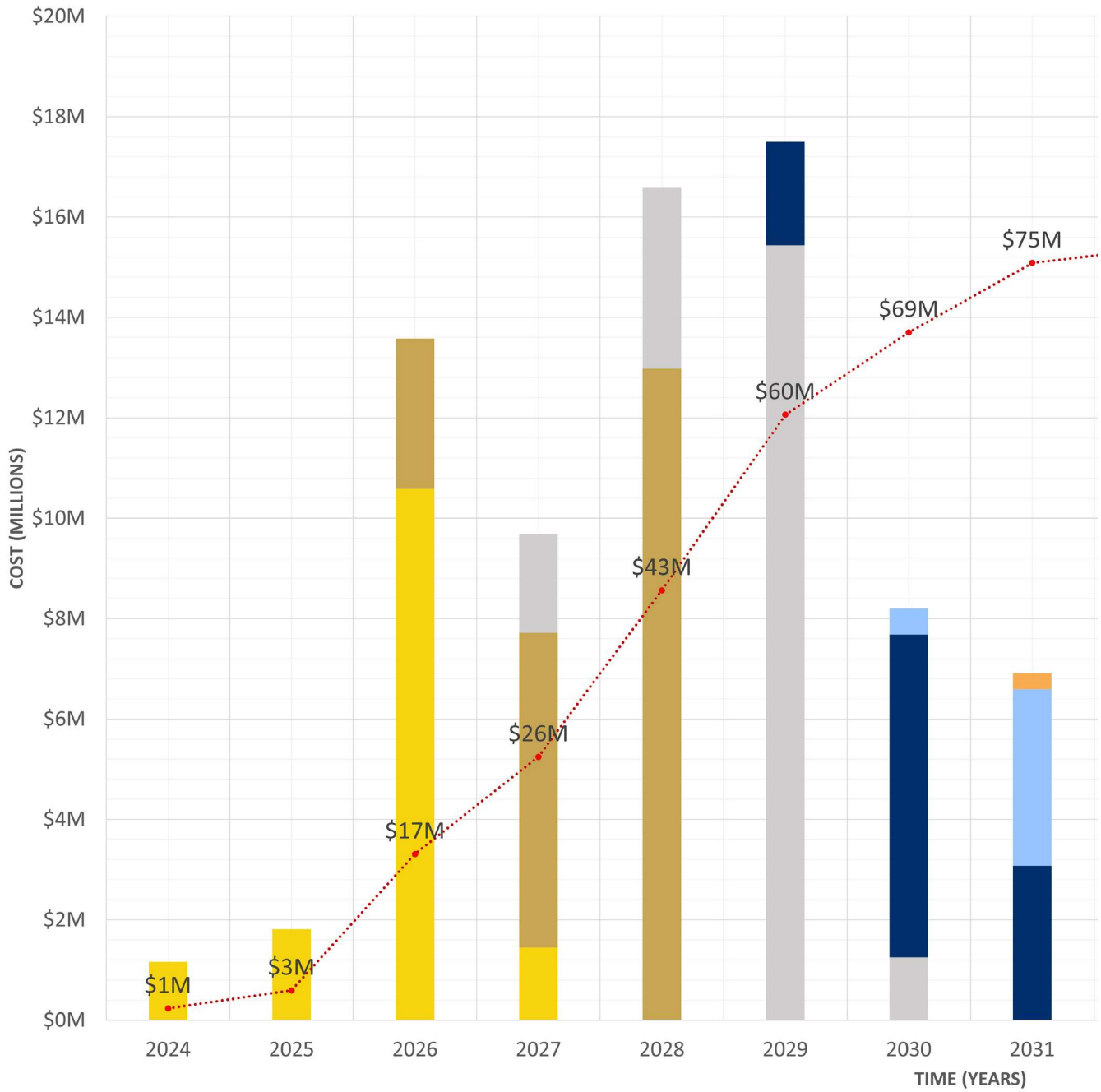
[3] Two story building.

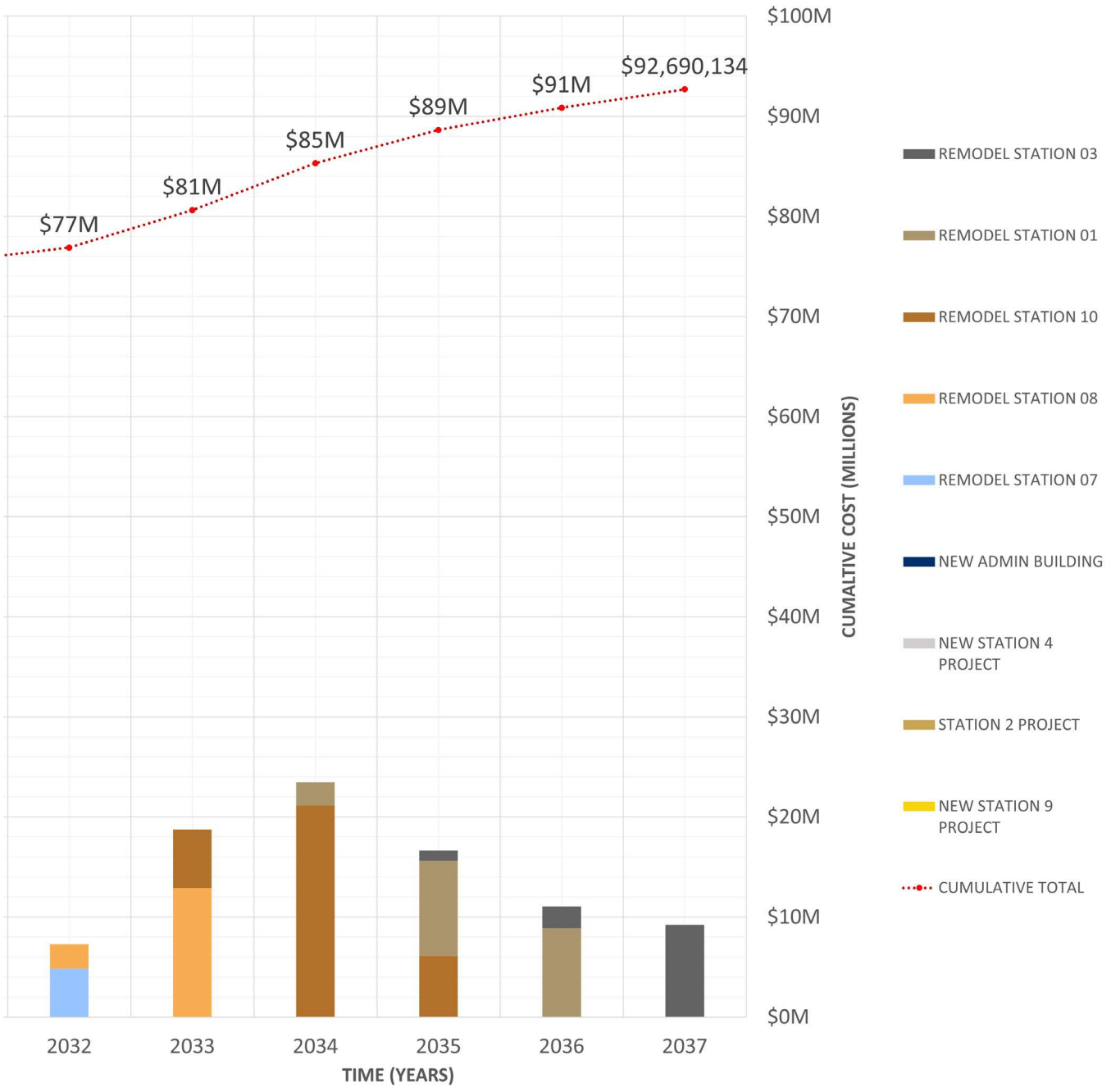
[4] Option A.

[5] Option B.

TOTAL COST OVER TIME

SONOMA COUNTY FIRE STATION PROGRAM (2024 - 2037)

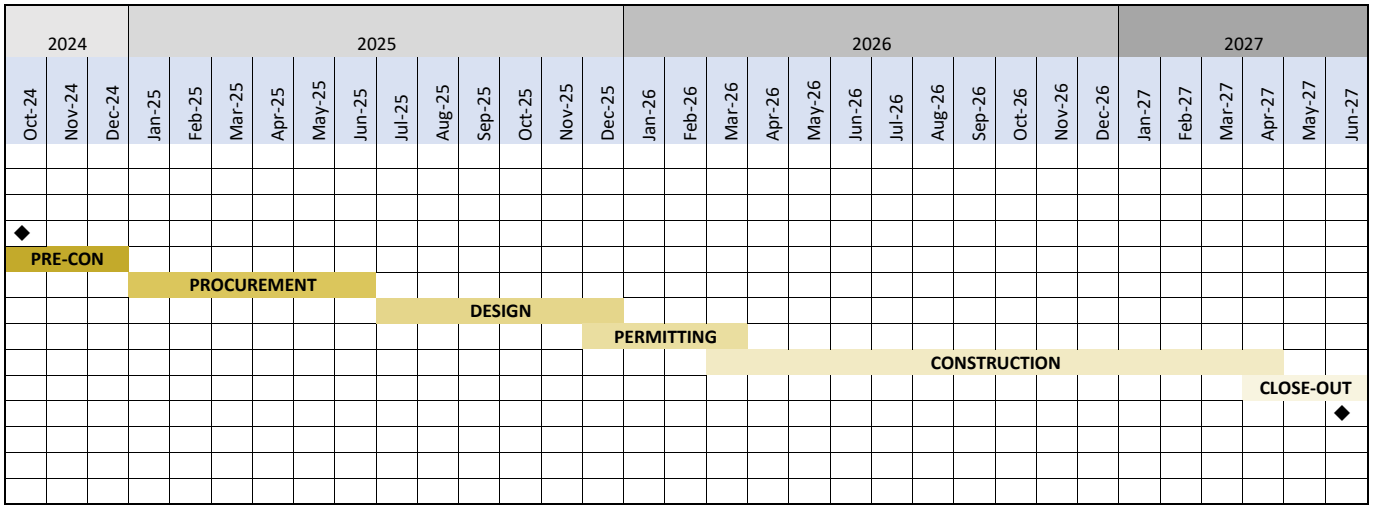




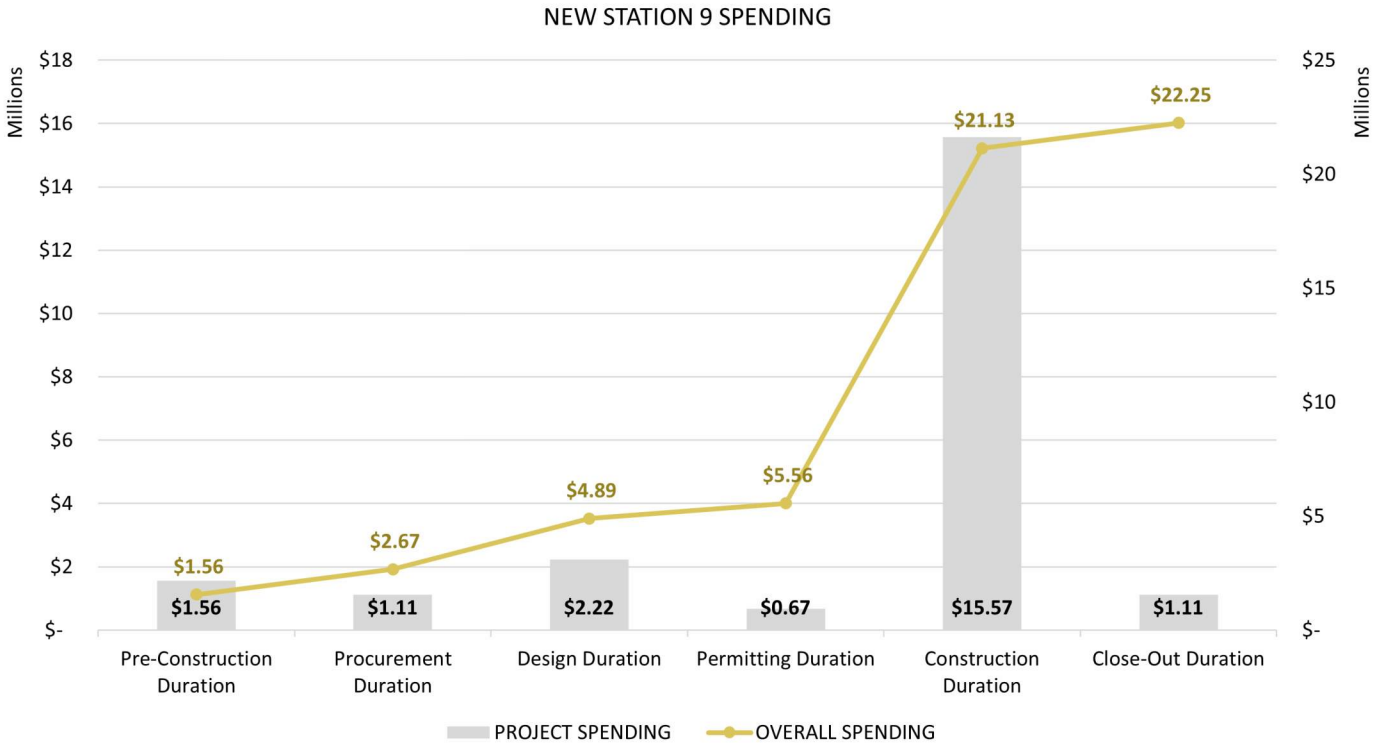
* Cost allocation is dependent on the district's funding schedule

STATION NO. 9 REPLACEMENT

CONSTRUCTION SCHEDULE

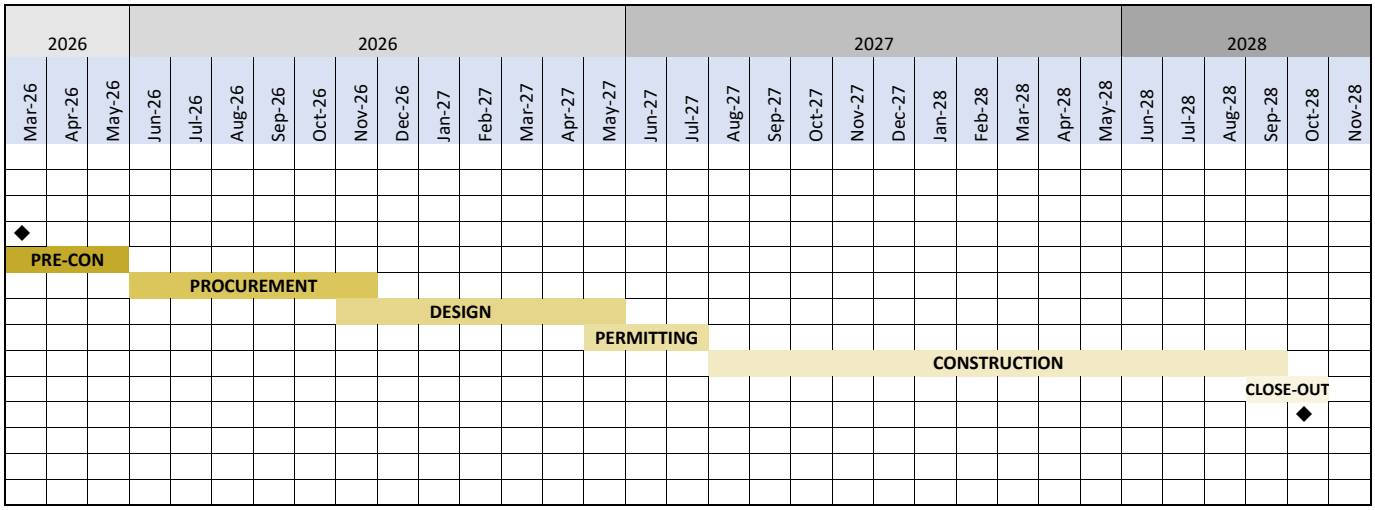


COST OVER TIME

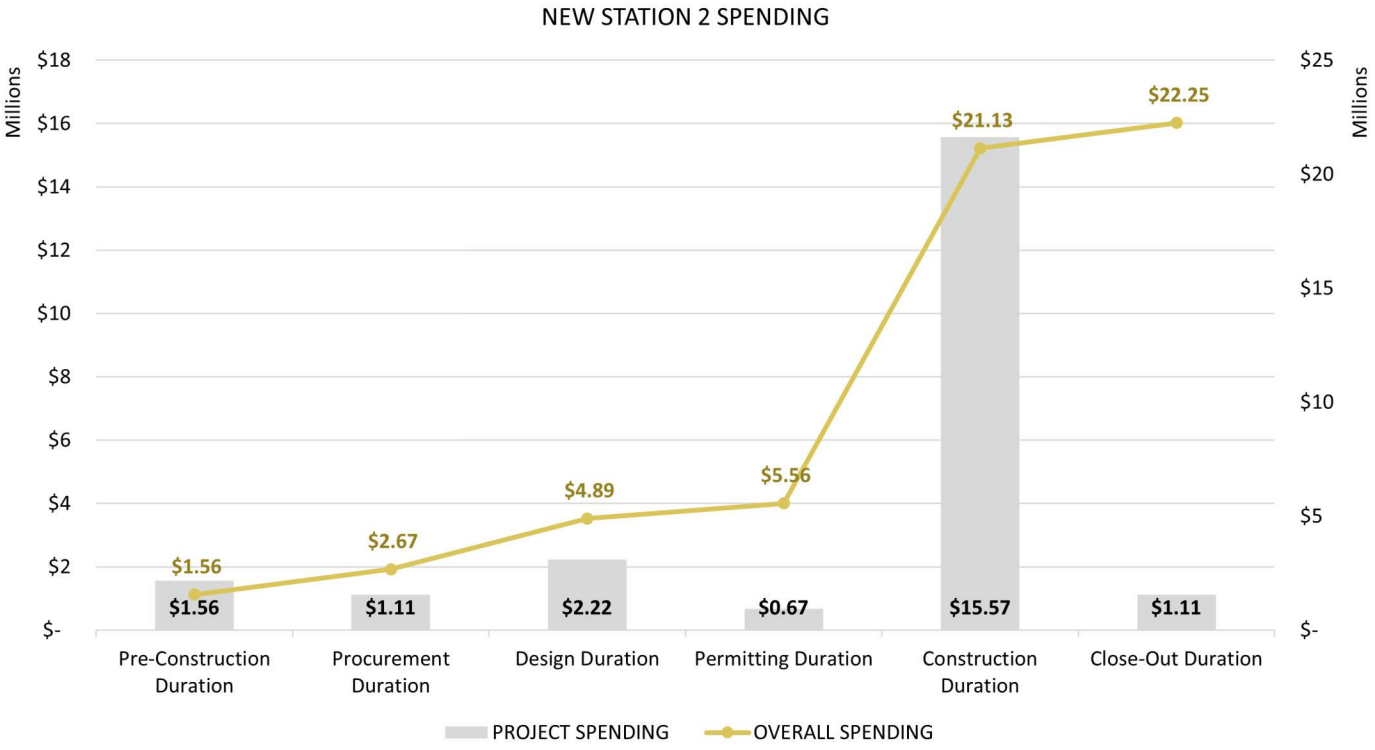


STATION NO. 2 REPLACEMENT

CONSTRUCTION SCHEDULE

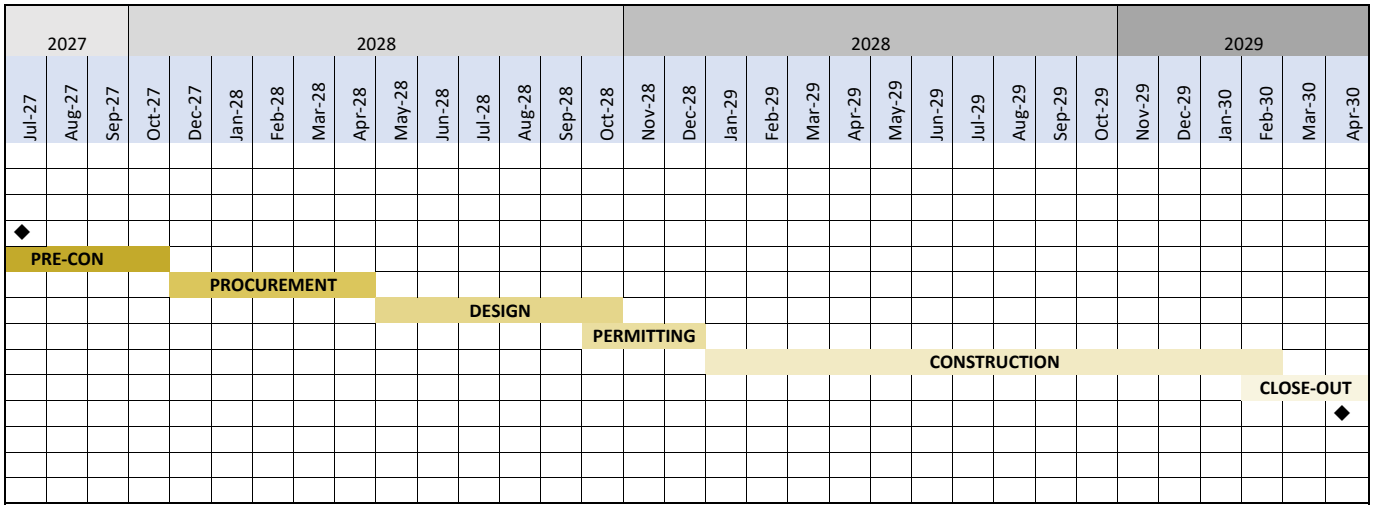


COST OVER TIME



STATION NO. 4 REPLACEMENT

CONSTRUCTION SCHEDULE



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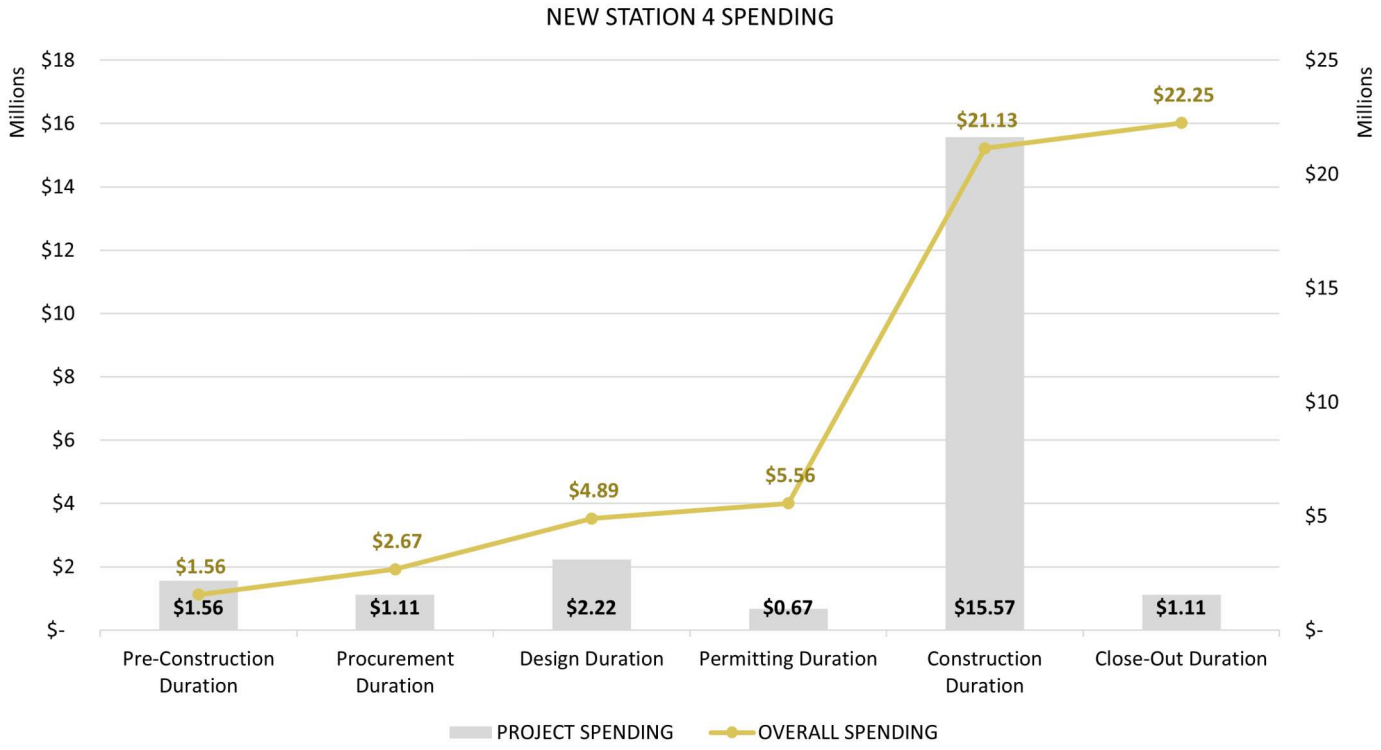
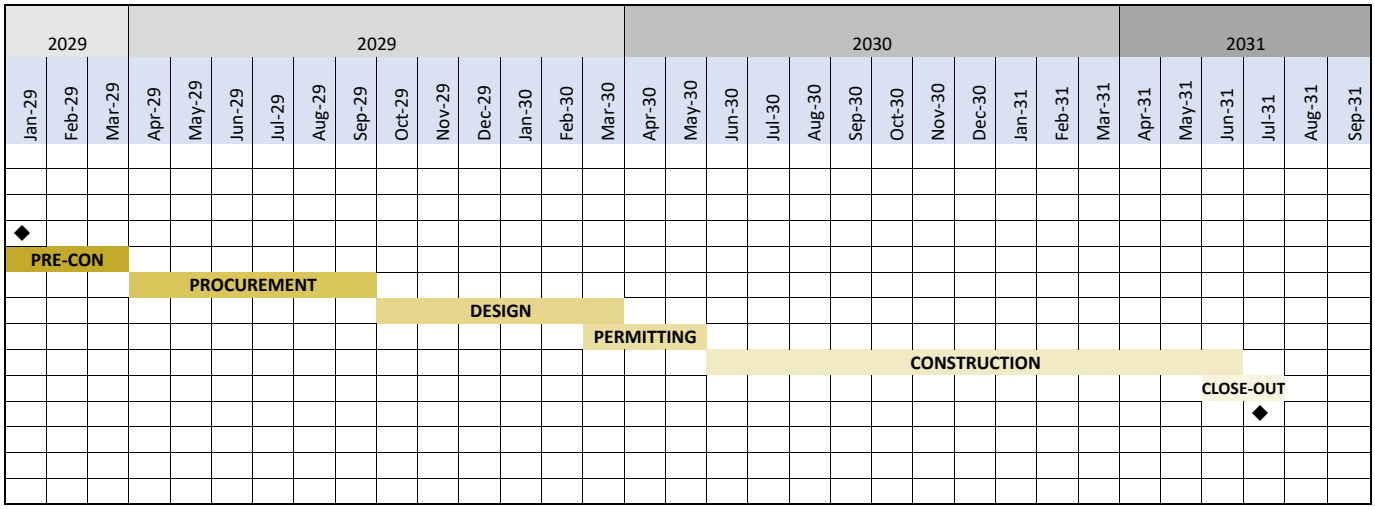
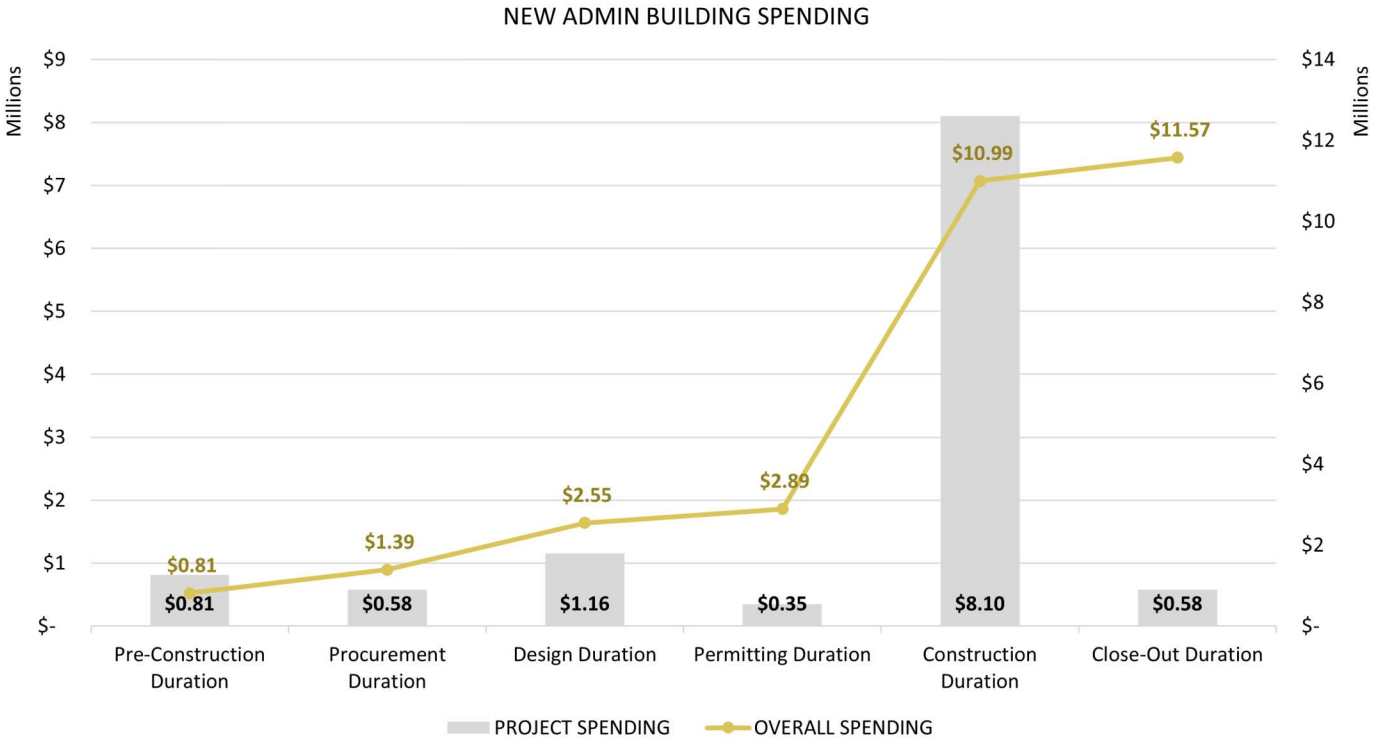


ADMIN BUILDING REPLACEMENT

CONSTRUCTION SCHEDULE

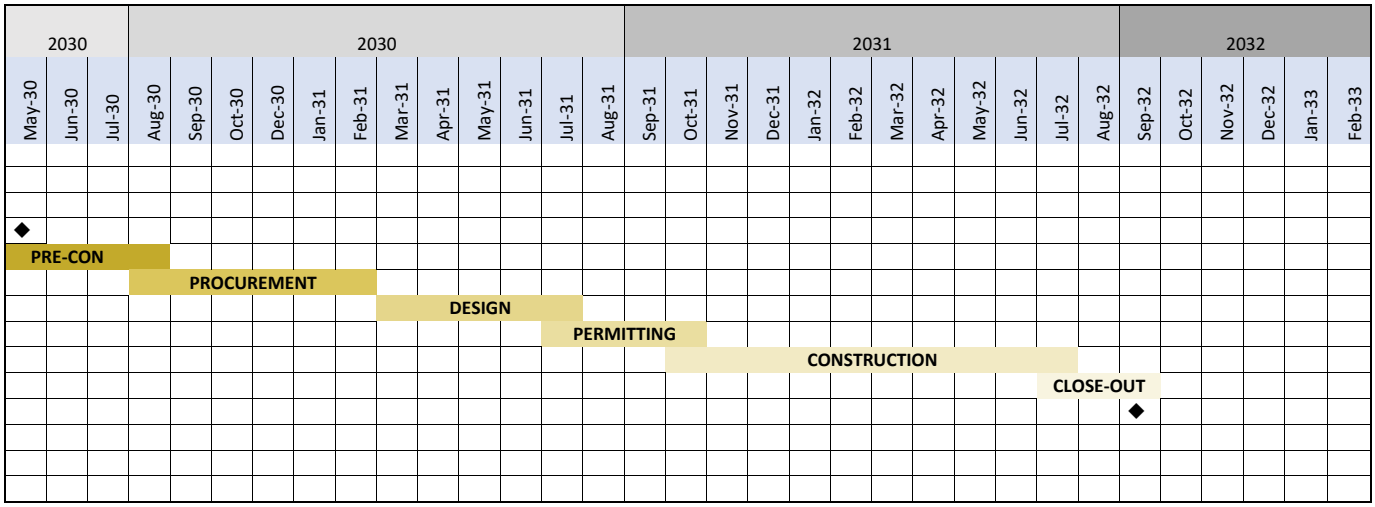


COST OVER TIME

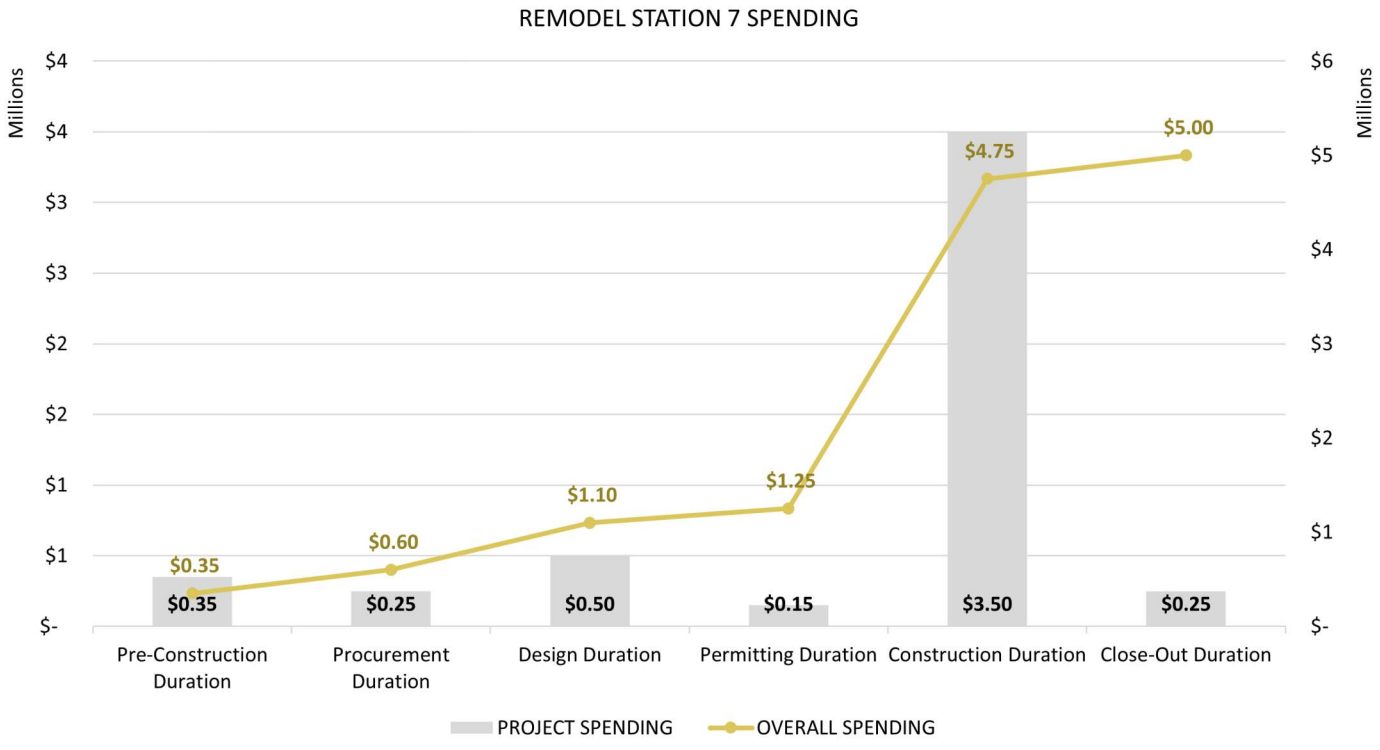


STATION NO. 7 RENOVATION

CONSTRUCTION SCHEDULE

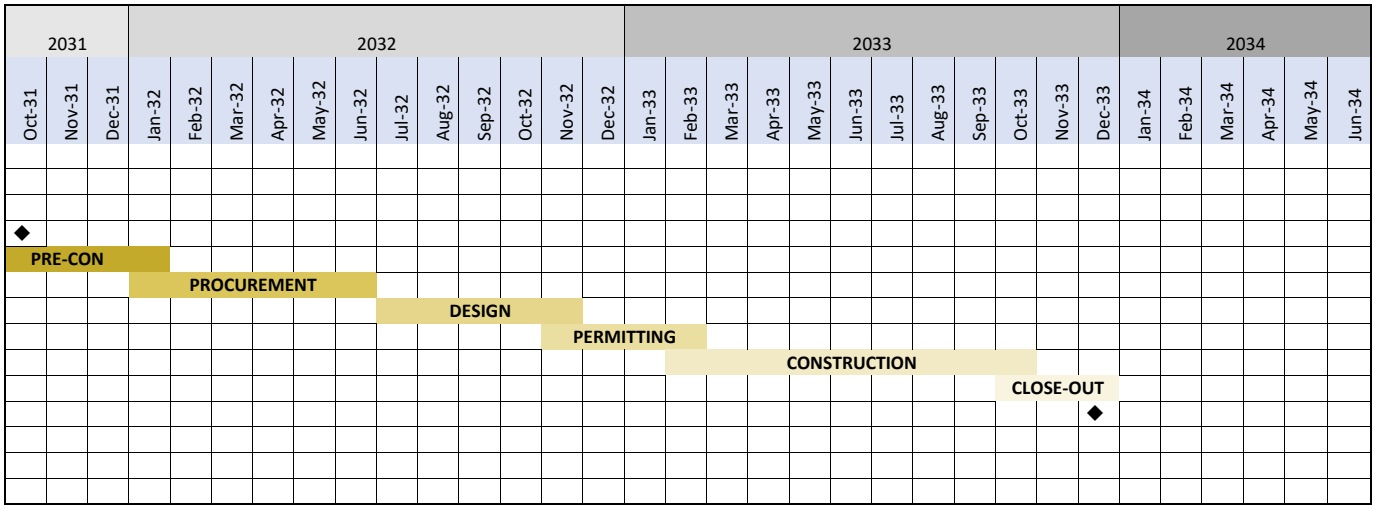


COST OVER TIME

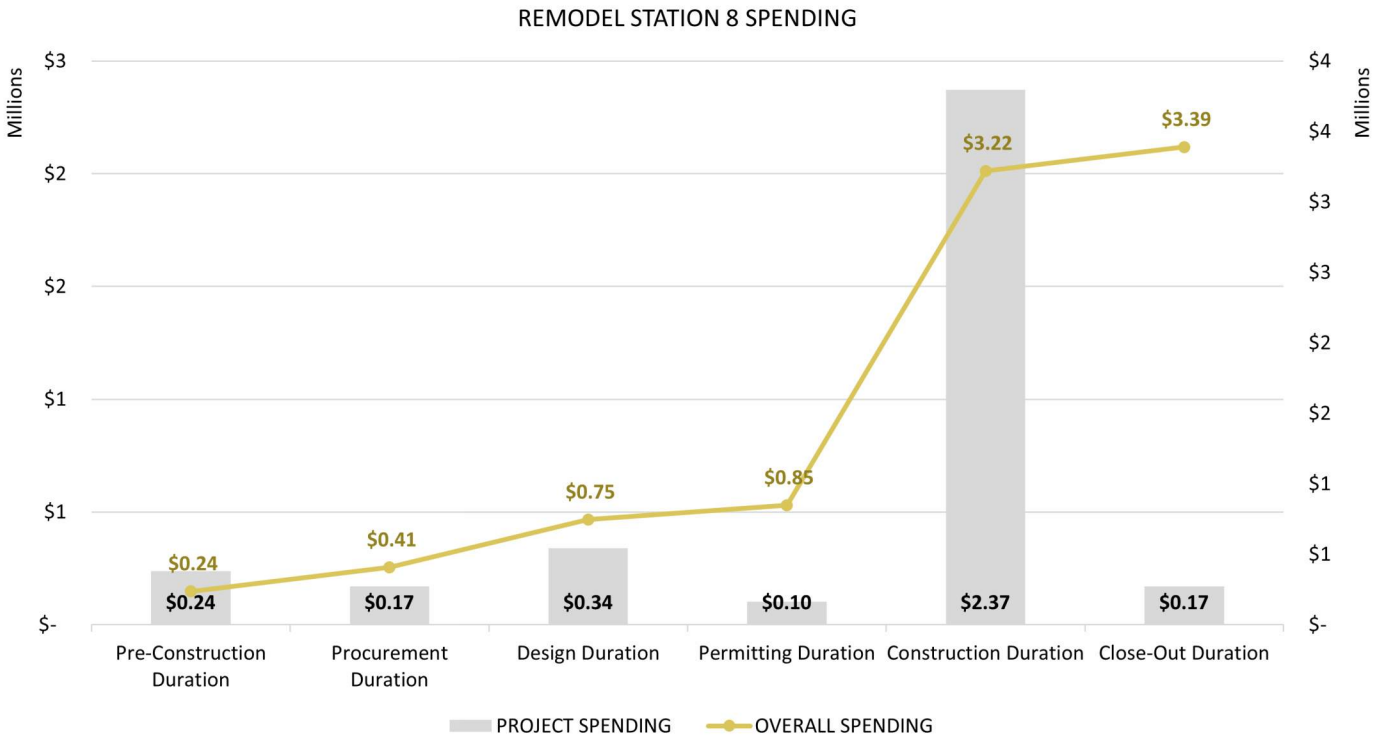


STATION NO. 8 RENOVATION

CONSTRUCTION SCHEDULE

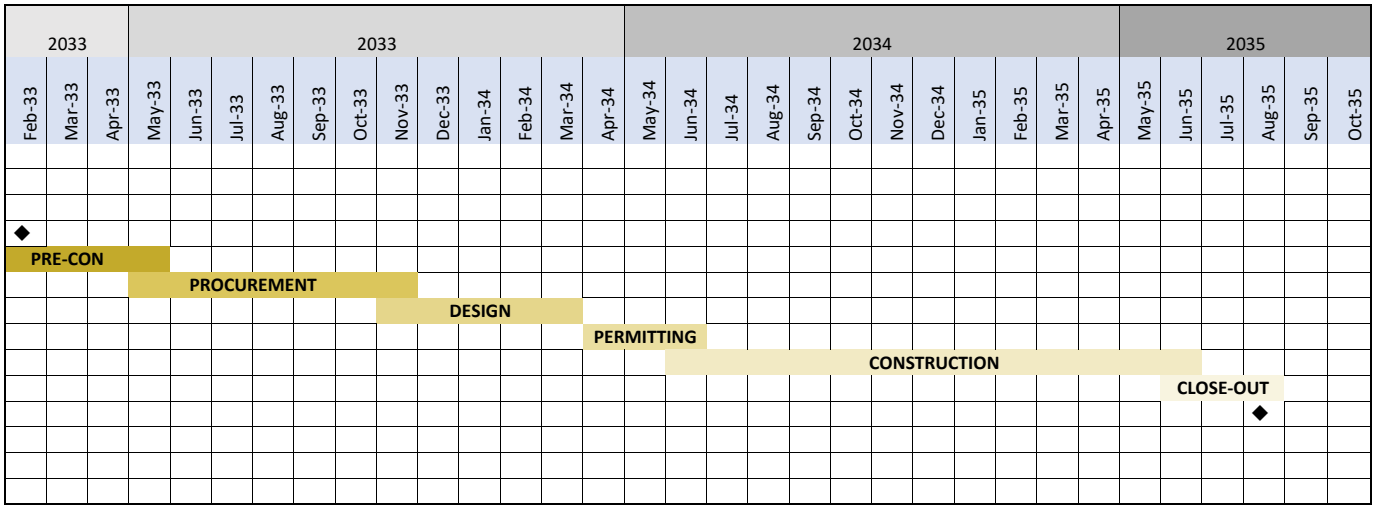


COST OVER TIME

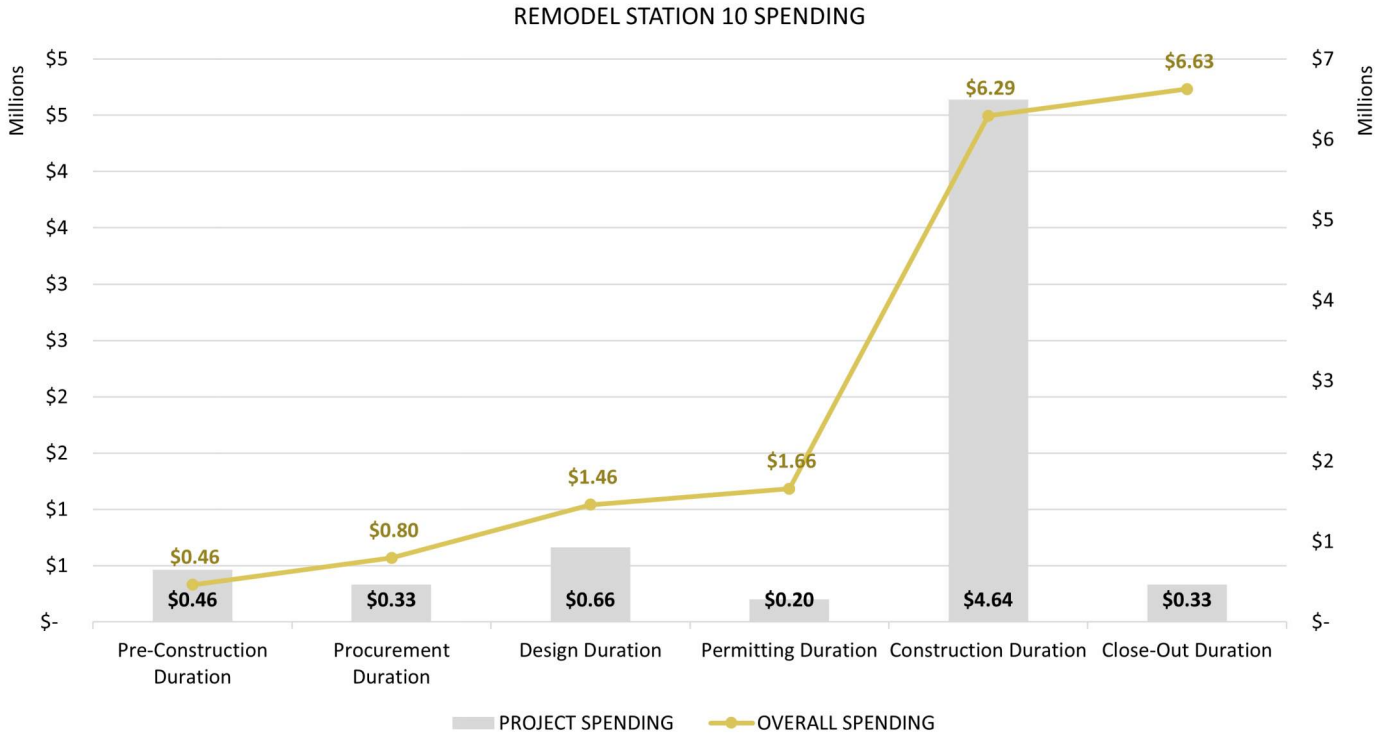


STATION NO. 10 RENOVATION

CONSTRUCTION SCHEDULE

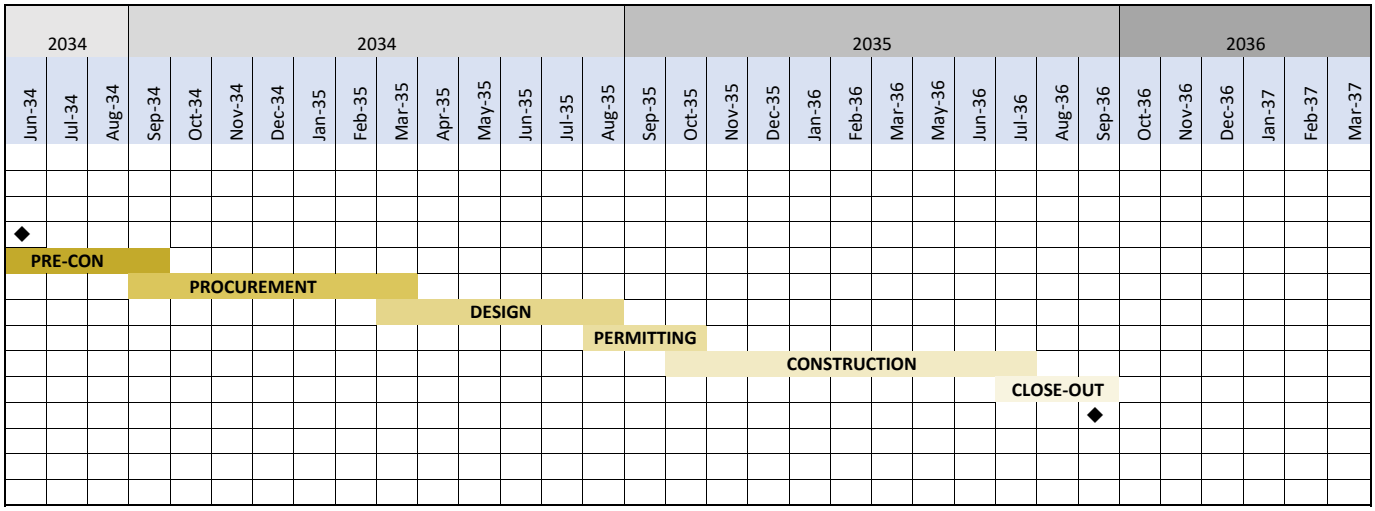


COST OVER TIME

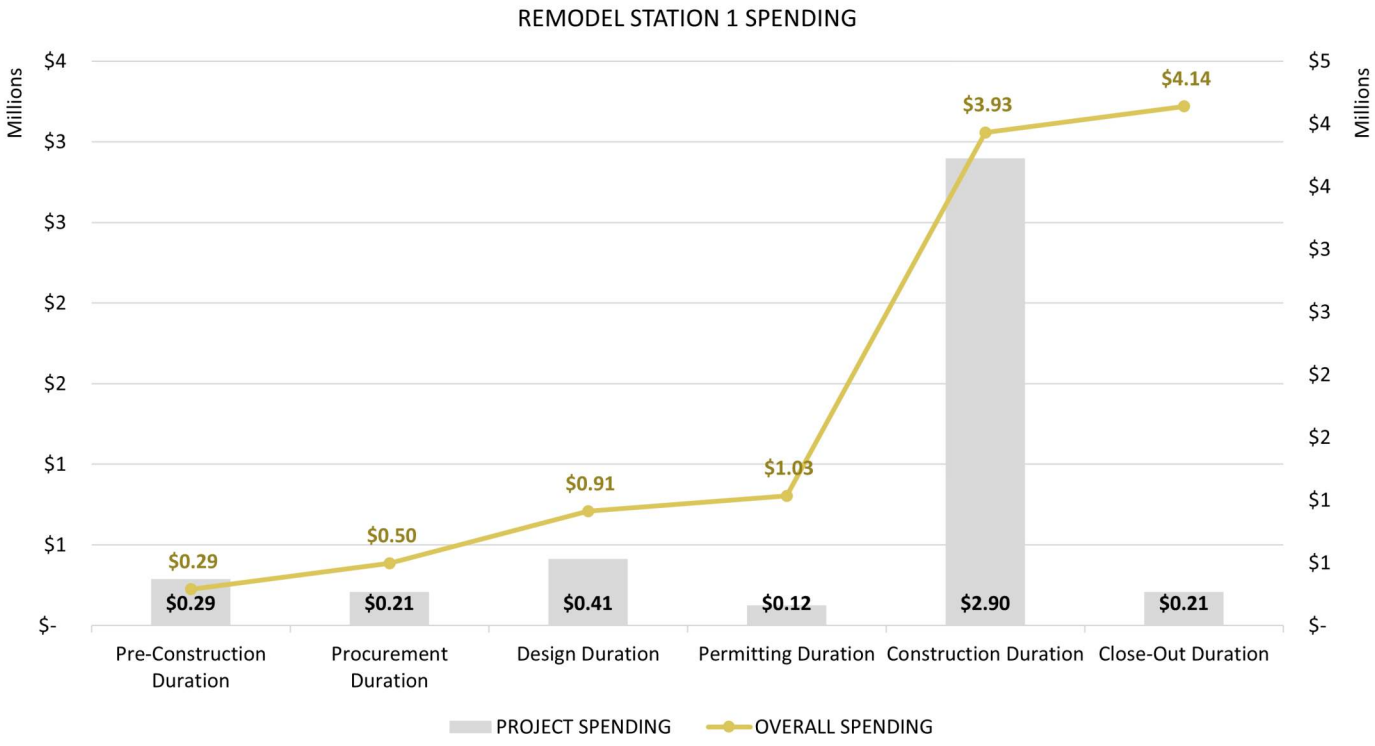


STATION NO. 1 RENOVATION

CONSTRUCTION SCHEDULE

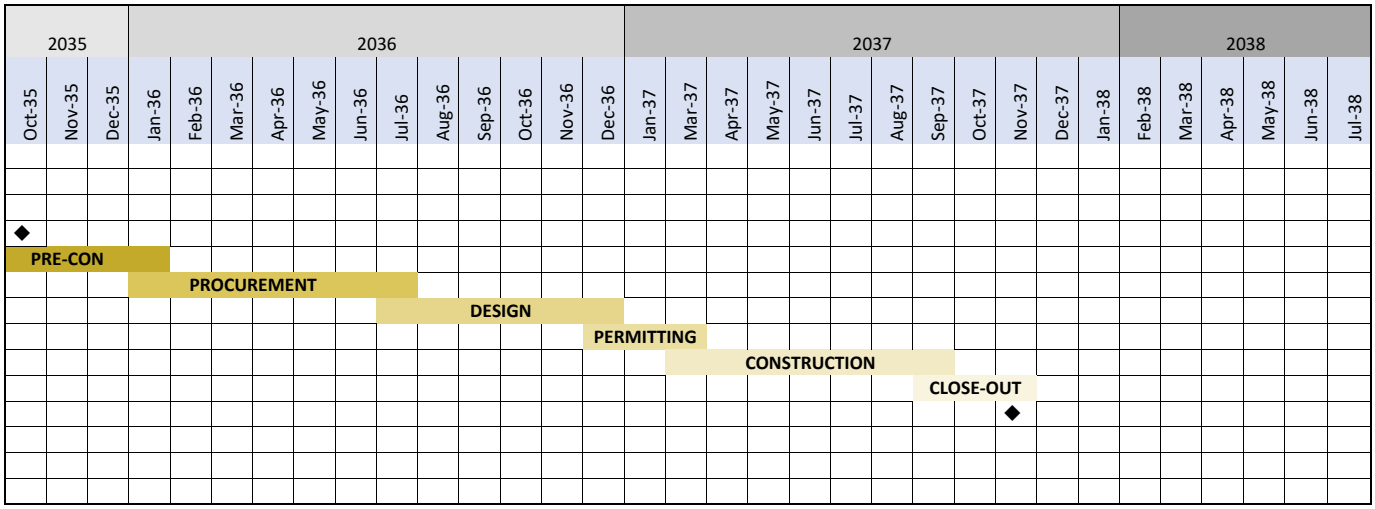


COST OVER TIME

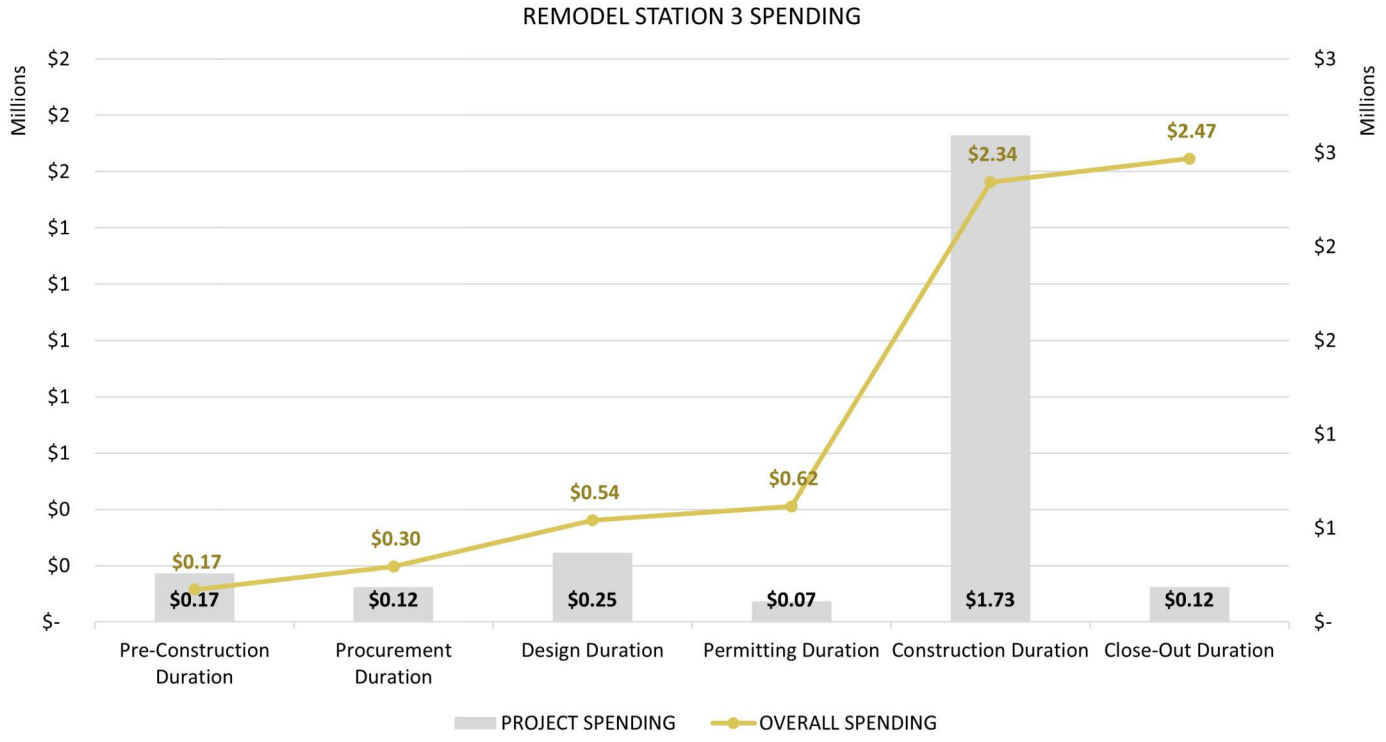


STATION NO. 3 RENOVATION

CONSTRUCTION SCHEDULE



COST OVER TIME



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6. RECOMMENDATIONS

RECOMMENDATIONS

REMODEL STATION 1

Station 1 meets many best practices; however, several improvements will provide additional best practice features. The remodel will add lockers in the existing dorm rooms. The existing locker room will be converted into a utility room that is accessible from the interior of the fire station and a storage room that is accessible from the apparatus room. As part of this conversion, the washer and dryer will be relocated from the Decontamination (Decon) area to the new utility room. In the turnout room, a door will be installed, and moderate heating and ventilation will be provided.

The doors connecting the apparatus room to the house corridors will be provided with new door seals. New walk-off mats and hand sanitizers will also be provided in these areas. In the kitchen, five feet of counter space will be lowered to create an accessible sink and work area.

REMODEL STATION 3

Station 3 substantially meets best practices. The following enhancements will further improve the station: Replace the four-fold rear apparatus doors with overhead doors, extending the length of the apparatus bays by approximately three feet and six inches. Reconfigure the laundry room to position the washer and dryer side-by-side. Add double doors and an adjacent patio to expand the usable area of the exercise room. Install door seals, sinks, and walk-off mats at the doors leading from the apparatus room into the living quarters. Lower five feet of counter space in the kitchen to create an accessible sink and work area.

REMODEL STATION 7

It is advised that Station 7 be eventually reconstructed, as this is the only cost-effective means to meet Essential Service structural standards. If funds are not available for reconstruction, the following recommendations could be implemented to achieve most other standards in the short term:

Convert the large office into a small private office and dorm room, and transform the enclosed office near the front door into a station office open to the corridor with work surfaces, pedestals, and upper cabinets on three sides. Reconfigure the radio room, restroom, and bathroom into two single-occupancy bathrooms with showers. Convert the storage/IT room adjacent to the dorms into a utility room, featuring a washer, dryer, mop sink, and IT cabinet. Add two exterior single-occupancy bathrooms adjacent to the meeting/training room. Relocate ADA parking to the front of the station. Enclose the area currently occupied by exercise equipment to create an exercise room. Establish a Decon area open to the middle apparatus bay. Connect the SCBA fill station to a duct with an outside air louver. Install door seals, walk-off mats, and hand sanitizers at the doors leading from the apparatus room into the house. Lower five feet of counter space in the kitchen to create an accessible sink and work area.

REMODEL STATION 8

It is recommended that Station 8 be eventually reconstructed, as this is the only cost-effective means to meet Essential Service structural standards. If funds are not available for reconstruction, the following recommendations could be implemented to achieve most other standards in the short term:

Renovate the existing bathroom, restroom, and open dorm rooms to create two single-occupancy bathrooms with showers, four dorm rooms, an IT room, and a utility room. Convert the captains' office into a station office. Enclose the area currently occupied by exercise equipment to create an exercise room.

Establish a Decon area open to the middle apparatus bay. Add an exterior vent to the SCBA Building. Convert the existing control room,

storage room, and Decon area into a station office and radio room. Install door seals, walk-off mats, and hand sanitizers at the doors leading from the apparatus room into the house. Lower five feet of counter space in the kitchen to create an accessible sink and work area.

REMODEL STATION 10

Station 10 is a relatively new station that meets Essential Service structural requirements. It is recommended that a major renovation be made to bring the station up to current standards. There are two optional approaches recommended for consideration:

Option 10A involves remodeling the current community/training room and other areas to accommodate various station functions. This includes converting the community/training room into an exercise room, two dorm rooms, a single occupancy bathroom, and a single occupancy restroom. The public restrooms would be repurposed to house an elevator and elevator machine room, connecting the first floor to the existing stairs. The existing SCBA room would be transformed into a utility room containing laundry facilities, while the shop would be relocated to create an enclosed, exterior-ventilated SCBA room. An enclosed turnout room with moderate heating and ventilation would also be established. Additionally, a Decon area open to the apparatus room and rear patio would be created. The second-floor men's bathroom would be converted into a single occupancy bathroom, janitor's closet, and hallway connecting the second floor to the elevator. Door seals, walk-off mats, and sinks would be added at the doors leading from the apparatus room into the living quarters, and five feet of counter space in the kitchen would be lowered to create an accessible sink and work area.

Option 10B suggests retaining the existing community room while constructing a two-story addition at the rear of the station. The first floor of the addition would feature an exercise room, vented SCBA room, and elevator, with the adjacent remodeled space containing a ground floor restroom, hallway connecting the first floor to the existing stairs, turnout room with moderate heating and ventilation, and Decon area. The second floor of the addition would house the elevator and three dorm rooms, with the adjacent remodeled area containing two single occupancy bathrooms, a hallway connecting the second floor to the elevator, and a utility room. Similar to Option 10A, door seals, walk-off mats, and sinks would be installed at the doors leading from the apparatus room into the house, and five feet of counter space in the kitchen would be lowered to create an accessible sink and work area room.

Establish a Decon area open to the middle apparatus bay. Add an exterior vent to the SCBA Building. Convert the existing control room, storage room, and Decon area into a station office and radio room. Install door seals, walk-off mats, and hand sanitizers at the doors leading from the apparatus room into the house. Lower five feet of counter space in the kitchen to create an accessible sink and work area.

REPLACE STATIONS 2, 4, AND 9

Due to age, condition, and operational limitations, Stations 2, 4, and 9 are recommended for replacement.

RECOMMENDATIONS

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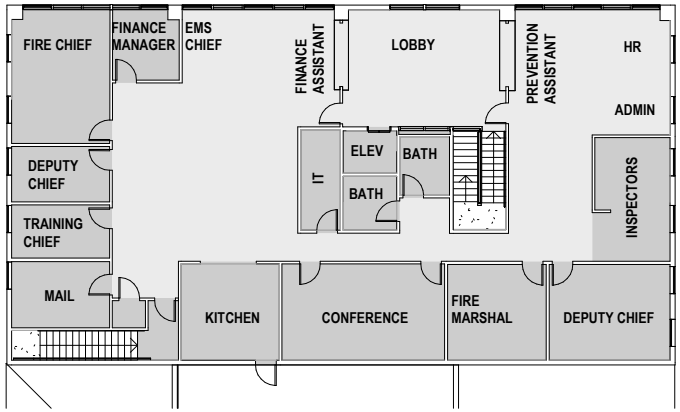
6. APPENDIX

APPENDIX A

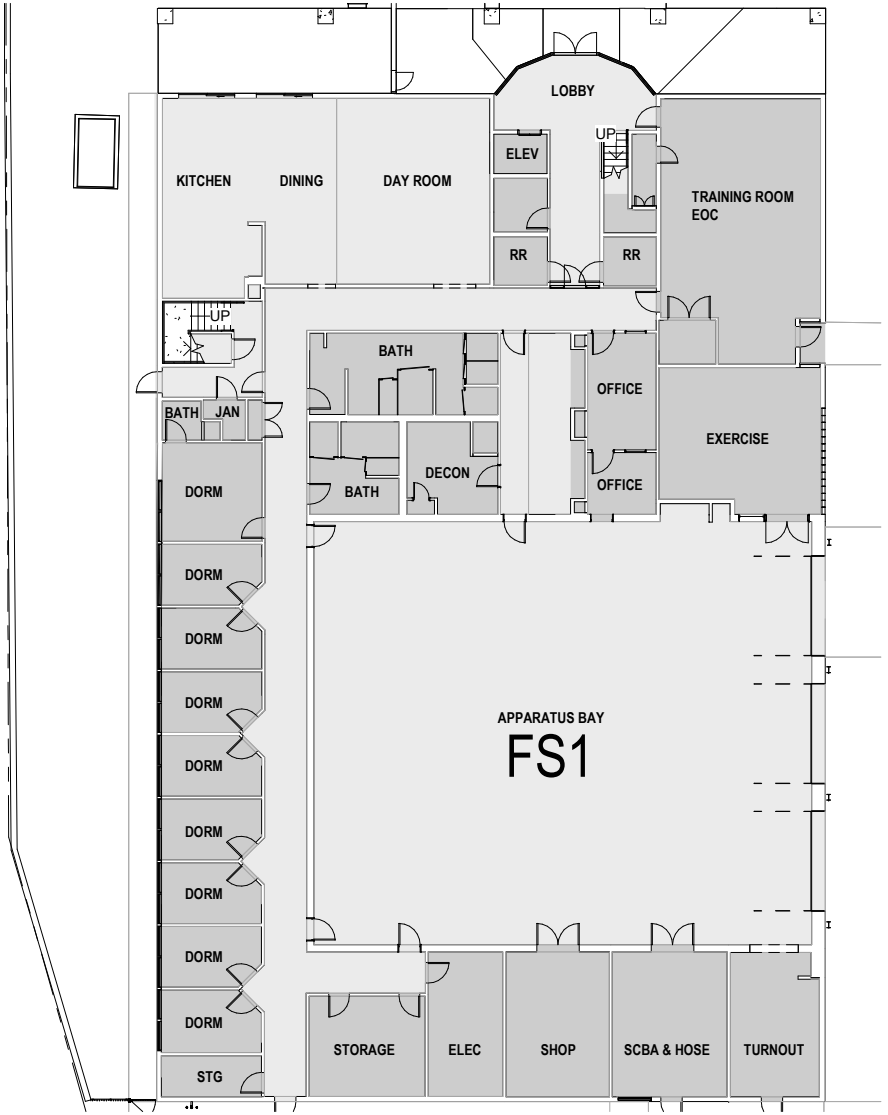
FIRE STATION FLOOR PLANS

WITH RENOVATION RECOMMENDATIONS

FIRE STATION NO. 1



LEVEL 2

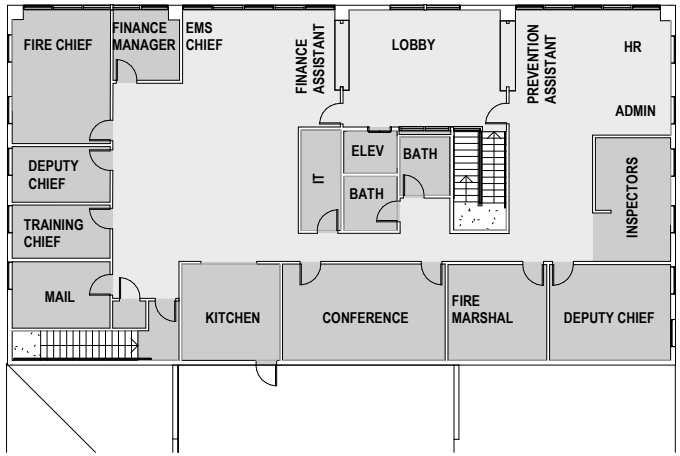


LEVEL 1

0' 6' 12' 18' 24' 30'

Existing Floor Plan

FIRE STATION NO. 1



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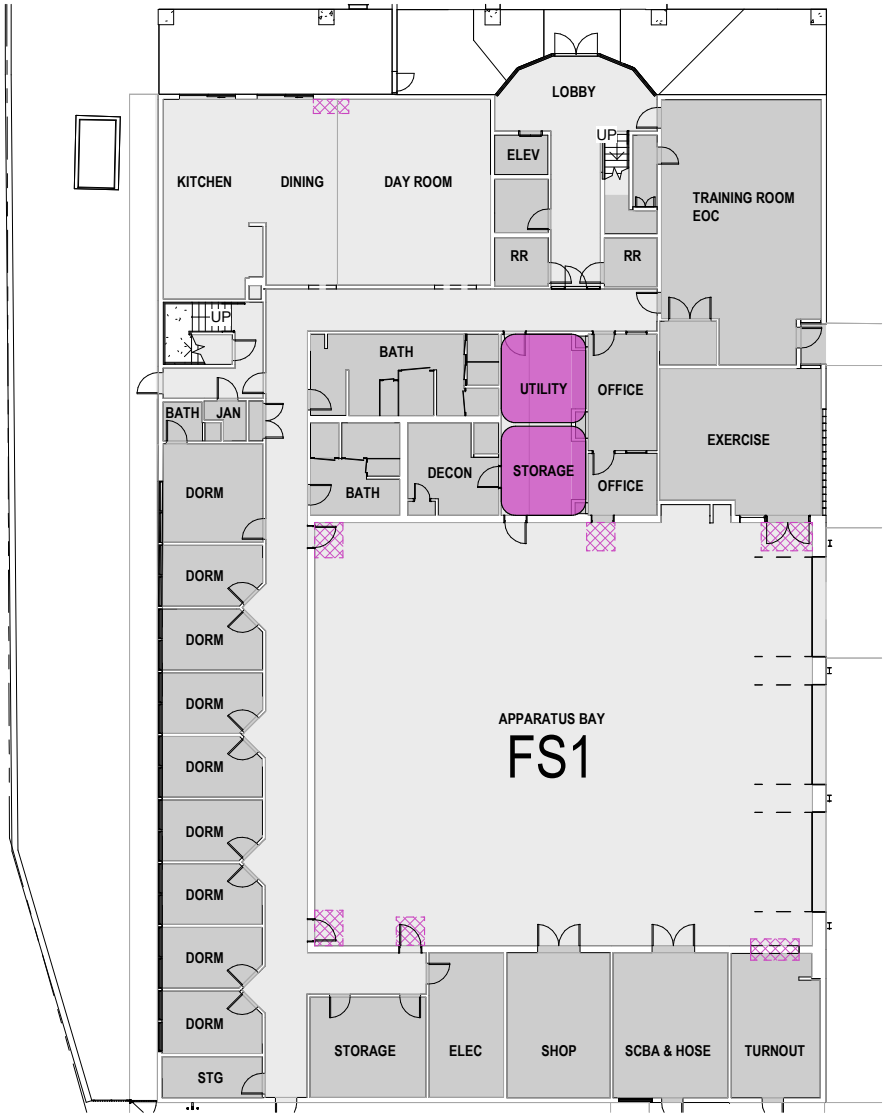


ASSESMENT KEY

RENOVATED SPACE

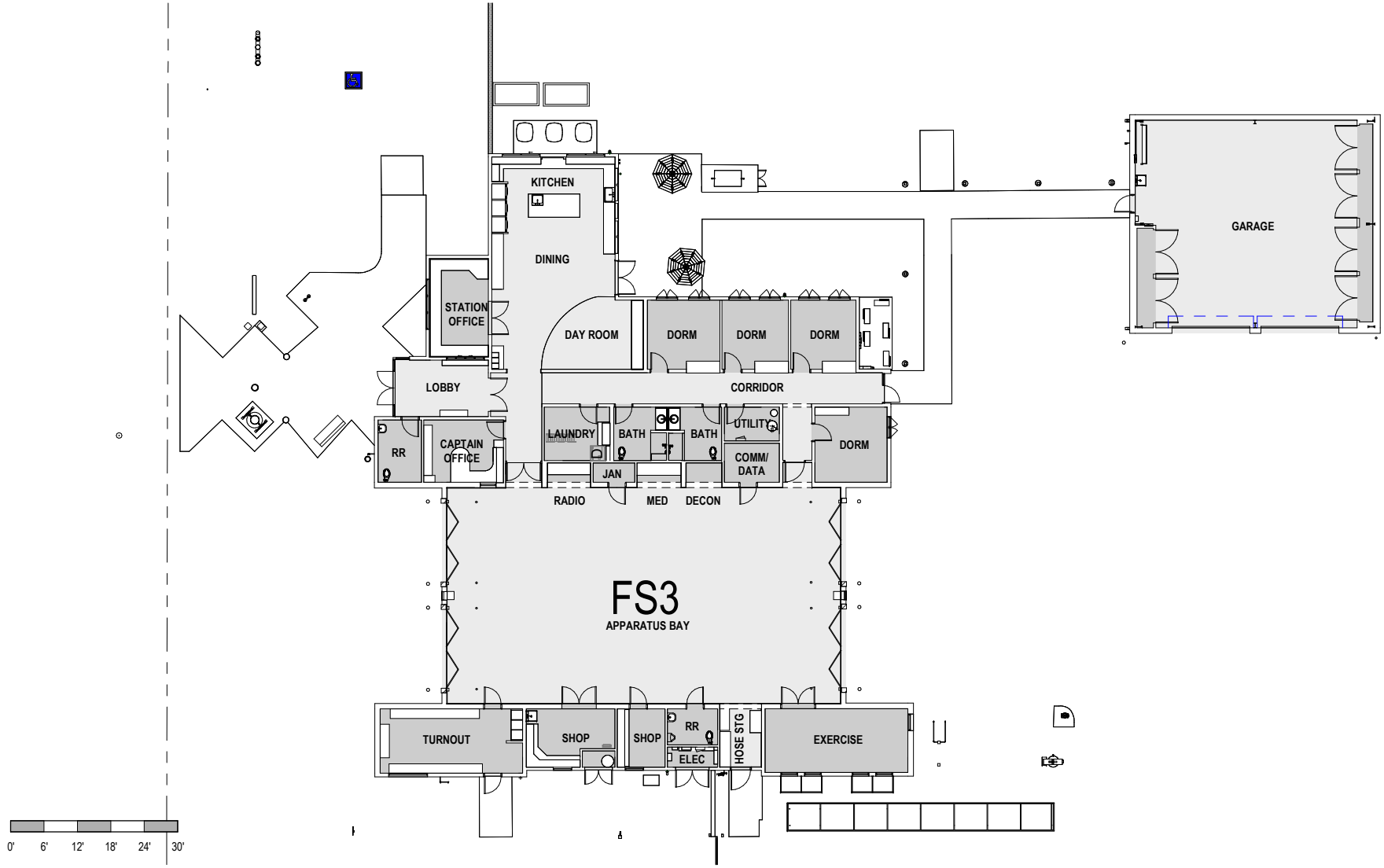
RENOVATED CIRCULATION

0' 6' 12' 18' 24' 30'

LEVEL 1

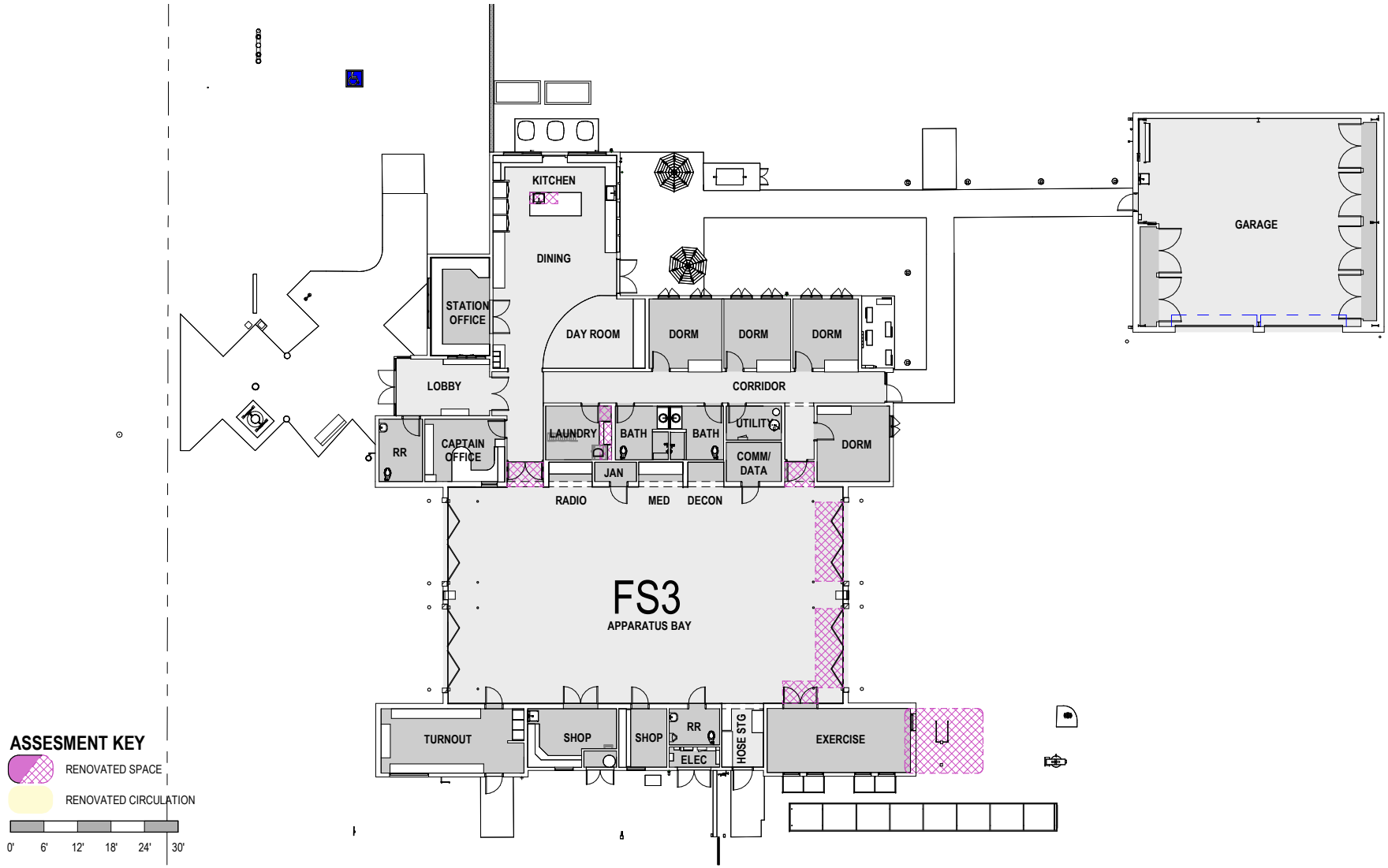
Conceptual Floor Plan

FIRE STATION NO. 3



Existing Floor Plan

FIRE STATION NO. 3

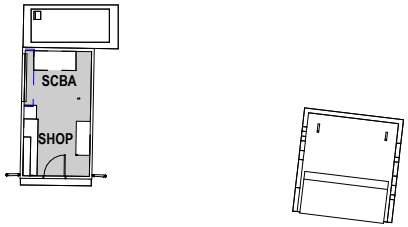


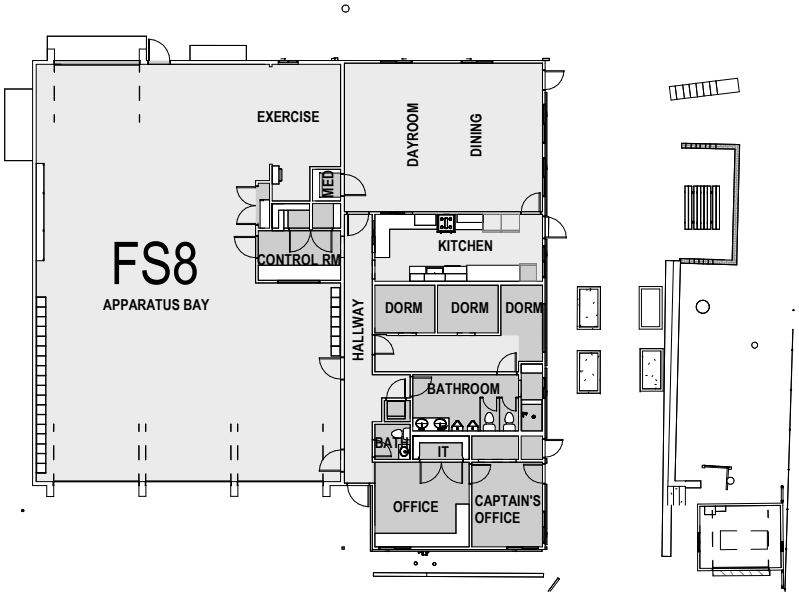
Conceptual Floor Plan

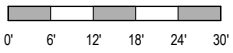
Existing Floor Plan

FIRE STATION NO. 7

Conceptual Floor Plan

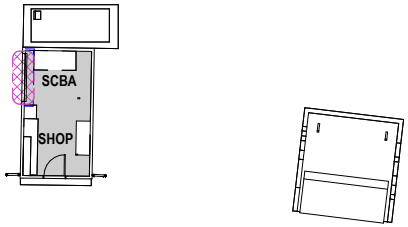






Existing Floor Plan

FIRE STATION NO. 8



ASSESMENT KEY

RENOVATED SPACE

RENOVATED CIRCULATION

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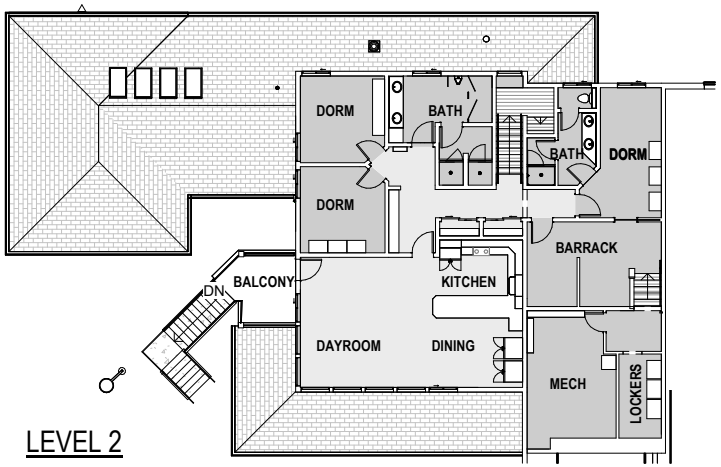
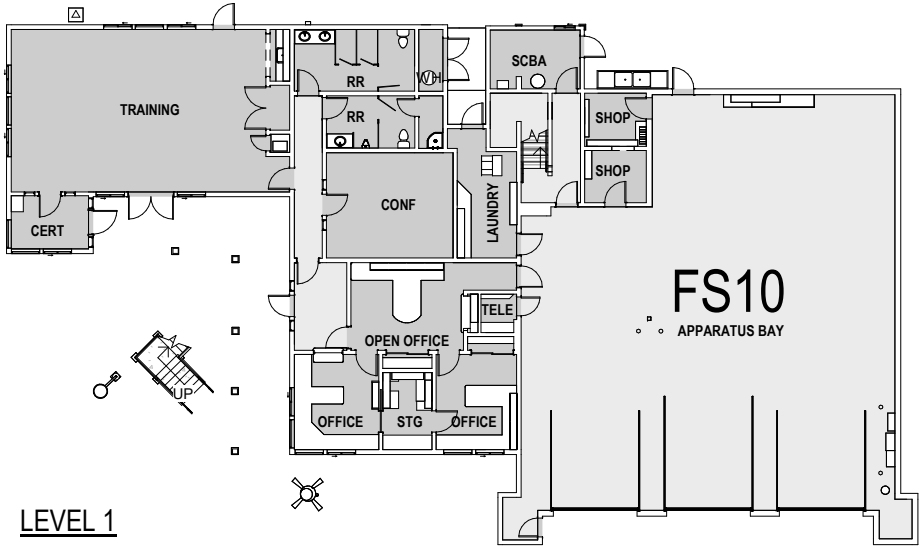
Conceptual Floor Plan

FIRE STATION NO. 10 - OPTION A



LEVEL 2

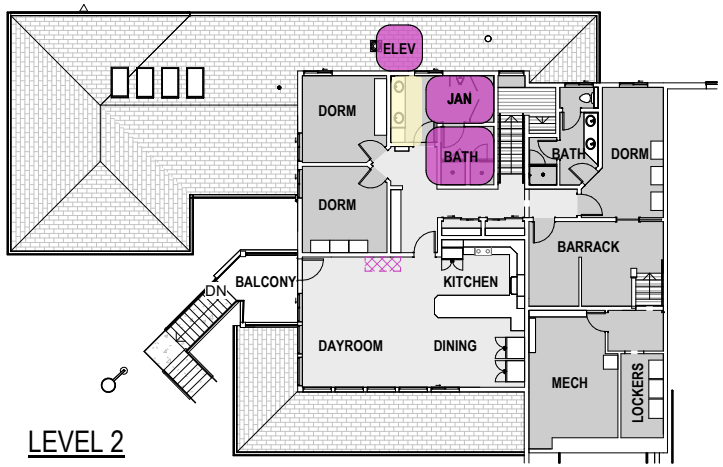


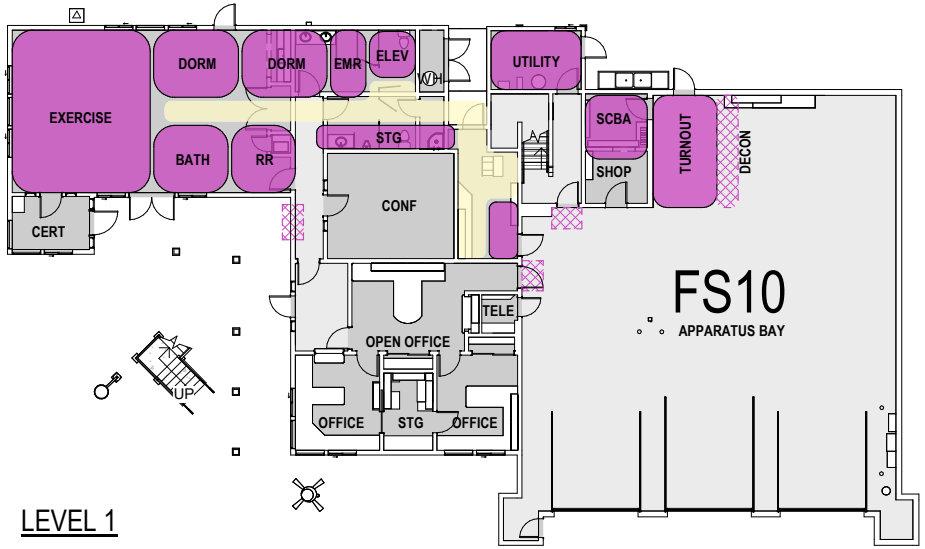
LEVEL 1

0' 6' 12' 18' 24' 30'

Existing Floor Plan

FIRE STATION NO. 10 - OPTION A





ASSESMENT KEY

RENOVATED SPACE

RENOVATED CIRCULATION

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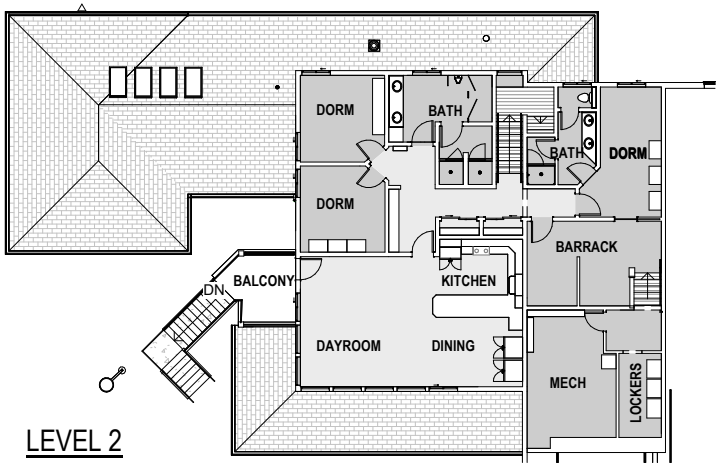
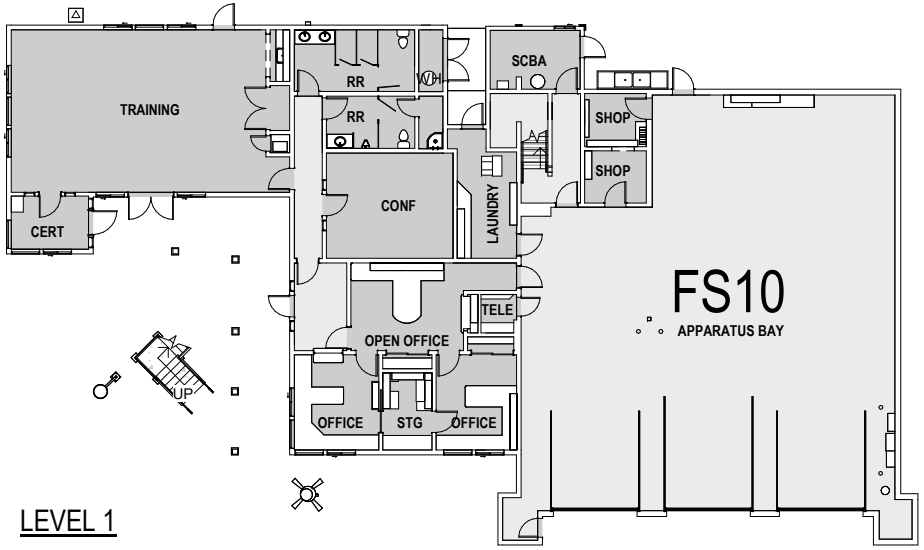
Conceptual Floor Plan

FIRE STATION NO. 10 - OPTION B



LEVEL 2

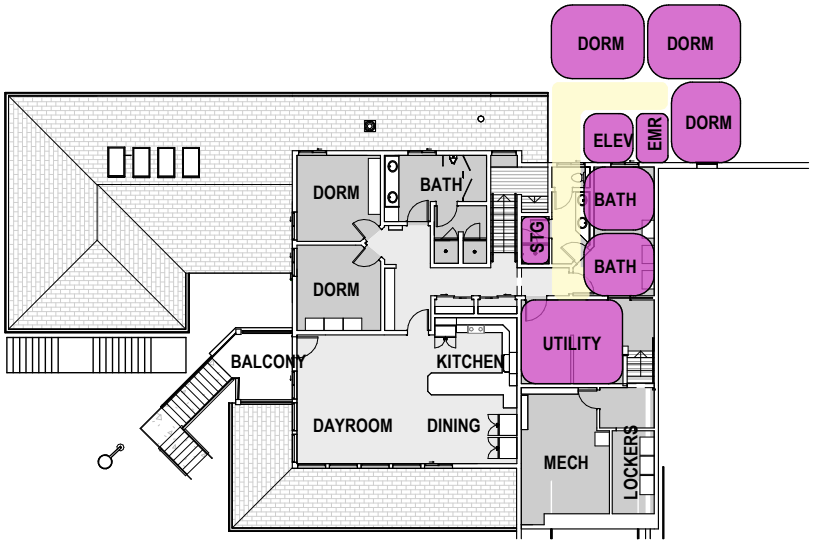


LEVEL 1

0' 6' 12' 18' 24' 30'

Existing Floor Plan

FIRE STATION NO. 10 - OPTION B



LEVEL 2

LEVEL 1

ASSESMENT KEY

RENOVATED SPACE

RENOVATED CIRCULATION

0' 6' 12' 18' 24' 30'

Conceptual Floor Plan

APPENDIX B

FACILITY CONDITION ASSESSMENT REPORT

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SONOMA COUNTY FIRE DISTRICT

Sonoma County Fire District

Facility Condition Assessment

MAY 31, 2024

KITCHELL

Table of Contents

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Executive Summary

Introduction

In September of 2023, the Sonoma County Fire District (District) authorized Kitchell to conduct a series of Facilities Condition Assessments (FCAs) to obtain complete building and property deficiency evaluations, propose corrective and maintenance recommendations, and prepare budget estimates for the corrective work for each facility. The findings will be used as a basis for developing a strategy to implement necessary repairs, alterations, and improvements over the next 10 years.

As part of the scope of work, Kitchell was authorized to perform FCAs on the following 5 facilities:

1. Fire Station 1
2. Fire Station 3
3. Fire Station 7
4. Fire Station 8
5. Fire Station 10

Assessment Methodology

In assessing the condition of each facility, Kitchell's team of FCA professionals identified those items in need of repair, retrofit, or replacement necessary to preserve the existing facilities and enhance their safety and longevity for the next 10 years. Budget estimates were developed for observed deficiencies and were categorized with priority groups ranging from "Immediate" to "Planned - Long Term". The methodology used in this assessment included a visual non-destructive inspection of the facilities using ASTM standards (ASTM E2018-08) 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. Additionally, online surveys were posted, inviting community input as part of the pre-assessment process. 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 was not a part of the FCA. 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 if observed.

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 Systems & 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. Reviewed electrical systems include power distribution, emergency power, lighting systems, and fire alarm. Reviewed mechanical systems 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 seven 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 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 compo-nent 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 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.

Facility Condition and Cost Summary

Location	Current Capital Renewal Cost	Capital Renewal Costs by Priority						Total Capital Renewal Cost (Escalated)	Replacement Costs	FCI	Condition Score	Condition Rating
		Priority 1 8% Escalation	Priority 2 13% Escalation	Priority 3 18% Escalation	Priority 4 23% Escalation	Priority 5 28% Escalation	Priority 6 33% Escalation					
Fire Station 1	$2,498,288	$645,700	$17,640	$94,710	$291,280	$1,708,350	$309,980	$3,067,660	$31,125,000	0.080	B	FAIR
Fire Station 3	$1,408,926	$351,670	$193,690	$1,990	$6,410	$1,139,190	$19,930	$1,712,880	$16,089,000	0.088	B	FAIR
Fire Station 7	$2,661,592	$1,725,310	$373,270	$445,510	$5,540	$422,560	$28,710	$3,000,900	$20,159,000	0.132	C	POOR
Fire Station 8	$772,679	$466,910	$123,540	$119,050	$3,160	$101,890	$63,820	$878,370	$9,834,000	0.079	B	FAIR
Fire Station 10	$1,747,086	$653,910	$69,810	$40,890	$1,103,710	$110,720	$81,570	$2,060,610	$15,038,000	0.116	C	POOR
Total Cost	**$9,088,571**	**$3,843,500**	**$777,950**	**$702,150**	**$1,410,100**	**$3,482,710**	**$504,010**	**$10,720,420**	**$92,245,000**			

Fire Station 1
Detailed Report
Address: 8200 Old Redwood Highway, Windsor, CA 95492

Statistics

Year Built:	1997
Total Building Area:	17,800 SF

FCA Summary

Capital Renewal Cost:	$2,498,288
FCI:	0.080
Condition Score:	B
Condition Rating:	Fair
Replacement Cost:	$31,125,000
Replacement Cost/SF:	$1,749

Narratives

Architectural Systems

Sonoma County Fire District Station 1 is located at 8200 Old Redwood Highway in Windsor, California. The two-story, 17,800-square-foot station was dedicated in 1997, housing both fire station operations and administrative functions for the District. The ground level consists of a three-bay apparatus bay, nine dormitories, a training room, day room, locker room, exercise room, turnout room, shop, air and hose storage, and a kitchen. The second level consists of open administrative offices and supporting spaces.

The exterior walls and roof structure are of wood frame construction. Exterior finishes consist of brick, painted cement plaster, asphalt shingle roofing, built-up asphaltic roofing with elastomeric coating, and metal clad wood-frame insulated glazing unit windows. The walls are finished with non-load-bearing brick units on the ground floor and painted cement plaster on the second floor. The building features a decorative steel facade structure as well as tube steel canopy.

In general, the exterior wall finishes show signs of wear. The brick unit walls on the ground level display stress cracks and chips, most likely due to settlement. Furthermore, the polyurethane sealant on the exterior wall control joints is deteriorating and requires replacement. The built-up roofing also shows signs of deterioration and is recommended for replacement concurrent to the replacement of the rooftop mechanical units. The asphalt shingle roofing appears to be in good condition with no major damage observed. The plastic skylights over the apparatus bay are approaching the end of their useful life, necessitating replacement. Overall, the exterior finishes are in fair condition.

Interior finishes include epoxy-coated flooring, sealed concrete flooring, carpet flooring, ceramic tile, painted gypsum board wall and ceiling, vinyl wall coverings, and suspended ceiling tiles. The wood doors throughout are in fair condition. The carpet flooring in the dormitories and day room is worn and has exceeded its useful life. Overall, the interior finishes are in fair condition.

Mechanical Systems

Mechanical Systems

The mechanical system at Fire Station 1 is serviced by five rooftop packaged air conditioning units and one ductless split system air conditioning unit that serve the administrative spaces, living quarters and fire department spaces. Three gas unit heaters serve the apparatus bay and tool room. Two powered exhaust systems, one rooftop exhaust fan, and six ceiling exhaust fans serve the building. A Plymovent system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a central vacuum system, a shop air compressor and an air/oxygen containment fill station. The ductless split system air conditioning units, gas unit heaters, and ceiling exhaust fans are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

Plumbing Systems

The plumbing systems at Fire Station 1 are serviced by domestic cold and hot water, sanitary waste, storm drains, gas and vent piping. The domestic hot water in the living quarters and administrative spaces is serviced by one gas water heater, while the hot water in the apparatus bay is serviced by two electric water heaters. Flush valve and flush tank water closets, urinals, lavatories, sinks, showers, and drinking fountains were observed. The water heaters are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that the three-inch copper water line serving the building is not of a standard size that has fittings and replacement parts readily available. Replacement parts of this size are difficult to obtain and should be made aware of when maintenance is required for this pipe. Although redesign of this piping system is not feasible, it should be brought to the attention of the facility maintenance staff.

Fire Protection Systems

The building is fire sprinklered and portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

Electrical Systems

Electrical Systems

Electrical service to Fire Station 1 is delivered underground from PG&E and terminates in the main switchboard in an interior dedicated electrical room. This switchboard consists of three integrated cabinets. The first cabinet contains the PG&E meter. The second has the main circuit breaker in the top section and an Automatic Transfer Switch (ATS) on the bottom section. The third section contains a distribution switchboard with circuit breakers for the remote panels and HVAC equipment. This equipment is rated for 1000A, 120/208V, three phase. All equipment is original to the 1997 installation.

The ATS is a Russelectric model 2000 that supplies standby power to the entire station. The distribution switchboard is composed of Square D (Sq D) molded case circuit breakers. The equipment is floor-mounted on a housekeeping pad. The main electrical room is conditioned, and the enclosures do not show signs of degradation despite their age.

There are several panelboards located in the fire station. These are General Electric (GE) A-series type and IEM P1B models that are original to the building. The panelboards are typically in the main electrical room or remote electrical closets. They are within protected and conditioned areas, and the enclosures seem to be in fair condition. No equipment labels indicating records of testing or preventative maintenance were observed. Additionally, there were no arc flash warning labels installed on the panelboards. These panelboards are approximately 27 years old and nearing the end of its expected useful life. The interior and conditioned environment appears to have helped maintain the equipment. There were no reports of circuit breakers tripping or other power quality items occurring.

Standby Power

Fire Station 1 has an outdoor standby generator that is exposed to the elements and has an integral weatherproof enclosure. The generator is configured to provide power to the entire fire station upon loss of utility power.

The generator is manufactured by Caterpillar and is rated 125KW, 120/208V, 3-phase. The nameplate indicates it is original to the building. The generator control panel showed no alarm or warning conditions and showed a runtime of 477 hours. The generator is regularly tested. There was a small fire within the housing at the battery terminals that was repaired but some arcing on the interior remains. The housing has signs of rust and paint peeling. The wire management for the interior control wiring is in poor condition. The interior sound attenuation fabric is loose and torn in some areas. The generator is supplied with diesel fuel from a subbase fuel tank. Based on age, the equipment is past its rated life and should be replaced.

The output of the generator is connected to the ATS within the main switchboard. Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. These were not present.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp surface mounted strip fixtures. The residential first floor room typically contains surface mounted 1'x4' wraparound fluorescent fixtures in the kitchen. There are downlights with open reflectors and compact fluorescent lamps at various locations. The second-floor office area typically contains 2'x2' recessed parabolic style fixtures. Most of the fluorescent lamps have been re-lamped with an LED equivalent. Lighting toggle switches are used for control.

The station has several lighting control panels containing low voltage relays to allow lighting circuits to be grouped and programmed into a time schedule. These are the MicroLite model # 500R. This panel is discontinued, and the manufacturer stopped supporting it in 2020. The staff has mentioned that they are having difficulty obtaining new relays as components fail. New lighting controls should be provided to comply with current energy code requirements.

The interior lighting is past the end of its expected life. While re-lamping to LEDs can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the interior fixtures with a pure LED based type.

The exterior lighting consists of light poles and wall mounted fixtures around the perimeter of the fire station. The wall-mounted fixtures showed no discoloration of diffusers and were in fair condition. The original lamps have been revised to an LED equivalent. The light poles are round black type with shoebox fixtures. The poles showed some dirt build up and discoloration, but no significant degradation was observed. The shoebox fixture housing appears original and has been re-lamped to an LED equivalent. Due to age, replacement of all exterior lighting with LED based fixtures is recommended.

Fire Alarm Systems

The station contains a Notifier AFP-200 model main fire alarm panel in the electrical room which appears original to the building. The control panel showed all normal conditions; however, the AFP-200 was discontinued in 2008 and spare parts will be increasingly difficult to obtain. The building contains pull stations, smoke detectors, and combination strobe/horns. The field devices appear to be original to the building.

The fire alarm system is now obsolete and past its expected useful life. Replacement of the aging fire alarm system is recommended.

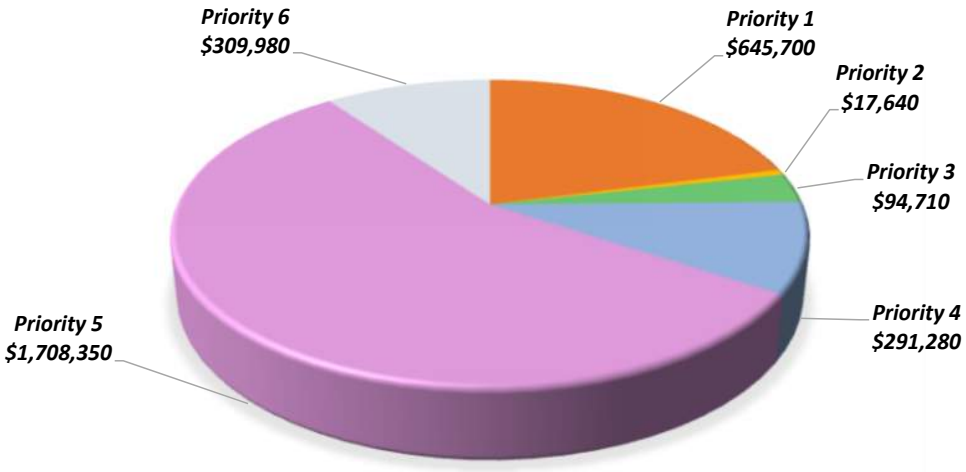
Conclusion

For Fire Station 1, this chart summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart summarizes all of the more detailed information from the subsequent Deficiency Table. To supplement the Deficiency Table, representative photographs and descriptions are included.

Fire Station 1							
Capital Renewal Costs by Priority							
Building	**Priority 1** 8% Escalation	**Priority 2** 13% Escalation	**Priority 3** 18% Escalation	**Priority 4** 23% Escalation	**Priority 5** 28% Escalation	**Priority 6** 33% Escalation	**Total**
Fire Station 1	$645,700	$17,640	$94,710	$291,280	$1,708,350	$309,980	**$3,067,660**
Total	**$645,700**	**$17,640**	**$94,710**	**$291,280**	**$1,708,350**	**$309,980**	**$3,067,660**
	21.05%	0.58%	3.09%	9.50%	55.69%	10.10%	**100.00%**

CAPITAL RENEWAL COSTS BY PRIORITY



Fire Station 1

Capital Renewal Cost:	**$2,498,288**	FCI:	**0.080**
Replacement Cost:	**$31,125,000**	Condition Score:	**B**
Replacement Cost/SF:	**$1,749**	Condition Rating:	**FAIR**

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	**$314**	-	-	-	-	$400	-
B1010	FLOOR CONSTRUCTION	**$5,998**	-	-	-	-	$7,680	-
B1020	ROOF CONSTRUCTION	**$3,536**	-	-	-	-	$4,530	-
B2010	EXTERIOR WALLS	**$11,289**	-	-	$650	$1,380	$12,300	-
B2020	EXTERIOR WINDOWS	**$48,376**	-	$10,830	$45,310	-	$500	-
B2050	EXTERIOR DOORS AND GRILLES	**$14,851**	-	-	$5,320	$3,870	$9,220	-
B3010	ROOFING	**$707**	-	-	$830	-	-	-
B3060	HORIZONTAL OPENINGS	**$1,807**	-	-	$2,130	-	-	-
C1010	INTERIOR PARTITIONS	**$26**	-	$30	-	-	-	-
C1020	INTERIOR WINDOWS	**$6,600**	-	-	$1,420	-	$6,910	-
C1030	INTERIOR DOORS	**$13,803**	-	-	$2,130	$1,840	$13,440	-
C2010	WALL FINISHES	**$236**	-	-	$280	-	-	-
C2030	FLOORING	**$305,263**	-	-	$7,020	-	$333,980	$51,070
C2050	CEILING FINISHES	**$32,059**	-	-	-	-	$41,040	-
D2010	DOMESTIC WATER DISTRIBUTION	**$29,361**	-	-	-	-	-	$39,050
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	**$5,998**	-	$6,780	-	-	-	-
D3020	HEATING SYSTEMS	**$33,394**	-	-	-	-	-	$44,400
D3030	COOLING SYSTEMS	**$22,499**	-	-	-	-	-	$29,920
D3060	VENTILATION	**$14,693**	-	-	$17,290	-	$30	-

Fire Station 1

Capital Renewal Cost:	**$2,498,288**	FCI:	**0.080**
Replacement Cost:	**$31,125,000**	Condition Score:	**B**
Replacement Cost/SF:	**$1,749**	Condition Rating:	**FAIR**

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)
D5010	FACILITY POWER GENERATION	**$133,132**	$143,780	-	-	-	-	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	**$222,995**	-	-	-	$274,300	-	-
D5040	LIGHTING	**$992,479**	$66,300	-	-	-	$1,191,790	-
D7050	DETECTION AND ALARM	**$399,029**	$430,950	-	-	-	-	-
E1030	COMMERCIAL EQUIPMENT	**$97,328**	-	-	-	-	-	$129,450
E2010	FIXED FURNISHINGS	**$75,039**	-	-	$7,230	$1,480	$71,180	$16,090
G2020	PARKING LOTS	**$4,322**	$4,670	-	-	-	-	-
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	**$23,153**	-	-	$5,100	$8,410	$15,350	-
TOTALS		**$2,498,288**	**$645,700**	**$17,640**	**$94,710**	**$291,280**	**$1,708,350**	**$309,980**
TOTAL (Priority 1-6 without escalation)		**$2,498,288**	**$3,067,660**					
			TOTAL (Priority 1-6 with escalation)					

Fire Station 1

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
Non Construction Cost [1.3] = Includes Architect/Engineer Fees, Construction Management, Client Administration, Permits, Testing, etc.
Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
784	D5010 - FACILITY POWER GENERATION	D5010.10.003	Site / -	The 100kW Diesel engine (including battery, charger, muffler, day tank) is at or is approaching end of its expected useful life.	Replace the existing generator with an appropriately sized new generator.	1	EA	$50,830	$143,780	1
782	D5040 - LIGHTING	D5040.10.002	1st Floor / Various	The low voltage lighting relays and switches are approaching the end of their expected useful life.	Replace the existing switches and provide a new lighting control system.	17,800	SF	$23,440	$66,300	1
778	D7050 - DETECTION AND ALARM	D7050.10.022	All / Various	The existing fire alarm system is at the end of its industry rated useful life.	Provide a fully addressable fire alarm control panel with associated initiating and signaling devices.	17,800	SF	$152,350	$430,950	1
786	G2020 - PARKING LOTS	G2020.70.014	Site / -	Existing lighting pole shows wear and should be retrofitted to be an LED fixture.	Retrofit the lighting pole with an LED fixture, clean and repaint pole.	5	EA	$1,650	$4,670	1
965	B2020 - EXTERIOR WINDOWS	B2020.20.010	1st Floor / -	East window sealant (elastomeric) near failing.	Replace window sealant.	400	LF	$3,660	$10,830	2
975	C1010 - INTERIOR PARTITIONS	C1010.10.001	2nd Floor / Deputy Fire Marshal Work Area	Damaged drywall at window jamb.	Remove and replace existing gypsum board with a new gypsum board and expansion joints. Tape and paint.	3	SF	$10	$30	2
901	D2030 - BUILDING SUPPORT PLUMBING SYSTEMS	D2030.30.001	Roof / -	Roof drains are damaged and clogged.	Repair or replace roof drains.	2	EA	$2,290	$6,780	2
958	B2010 - EXTERIOR WALLS	B2010.10.004	1st Floor / Exercise Room	Brick masonry is showing signs of cracking.	Repair brick masonry.	5	LF	$90	$280	3
945	B2010 - EXTERIOR WALLS	B2010.10.009	1st Floor / Left Apparatus	Cement plaster finish is showing signs of cracking.	Clean, patch, and repair the cement plaster wall finish.	2	SF	$40	$120	3
949	B2010 - EXTERIOR WALLS	B2010.50.005	Roof / -	Paint finish at parapet wall cap is worn.	Repaint sheet metal cap.	40	LF	$80	$250	3
960	B2020 - EXTERIOR WINDOWS	B2020.20.010	1st floor / Apparatus OH Doors	Sealant for glazing panes are failing.	Replace window sealant.	1,600	LF	$14,660	$45,310	3
969	B2050 - EXTERIOR DOORS AND GRILLES	B2050.70.001	Exterior / Exterior	Security gate does not latch.	Install a new gate and associated gate hardware.	1	LS	$1,720	$5,320	3
946	B3010 - ROOFING	B3010.50.004	Roof / -	Modified-bitumen roofing is showing signs of wear.	Replace modified bitumen roofing.	10	SF	$130	$400	3

Fire Station 1

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
Non Construction Cost [1.3] = Includes Architect/Engineer Fees, Construction Management, Client Administration, Permits, Testing, etc.
Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
956	B3010 - ROOFING	B3010.90.010	Exterior / Exterior	The fascia is deteriorated and shows signs of wood rot.	Selectively remove deteriorated fascia and replace with new material to match.	12	LF	$140	$430	3
902	B3060 - HORIZONTAL OPENINGS	B3060.10.001	Roof / -	Original prismatic skylight 2 x 4 are past useful life	Remove the existing skylight and replace it with a new skylight.	8	SF	$690	$2,130	3
914	C1020 - INTERIOR WINDOWS	C1020.90.001	2nd Floor / Finance manager office	Wood sill is worn and cracking.	Remove and replace the existing wood sill with new wood sill.	1	EA	$230	$710	3
973	C1020 - INTERIOR WINDOWS	C1020.90.001	1st Floor / Chief Dorm	Warped/damaged window sill.	Remove and replace the existing wood sill with new wood sill.	1	EA	$230	$710	3
963	C1030 - INTERIOR DOORS	C1030.25.002	1st Floor / Kitchen	Interior door does not operate properly.	Repair interior aluminum sliding door.	2	EA	$690	$2,130	3
911	C2010 - WALL FINISHES	C2010.70.001	1st Floor / Dorm 8	Painted gypsum wallboard is showing signs of wear.	Patch and paint the gypsum wallboard.	12	SF	$90	$280	3
966	C2030 - FLOORING	C2030.20.001	1st Floor / Men's Shower	Ceramic tile flooring is showing signs of cracking.	Remove the existing ceramic tile flooring and replace.	100	SF	$2,270	$7,020	3
793	D3060 - VENTILATION	D3060.30.002	1st Floor / Turnout	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
820	D3060 - VENTILATION	D3060.30.002	2nd Floor / Bath 1	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
798	D3060 - VENTILATION	D3060.30.002	1st Floor / Tools	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
830	D3060 - VENTILATION	D3060.30.002	1st Floor / Elevator	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
832	D3060 - VENTILATION	D3060.30.002	1st Floor / Electrical	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
794	D3060 - VENTILATION	D3060.30.002	1st Floor / Air and Hose	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
821	D3060 - VENTILATION	D3060.30.002	2nd Floor / Bath 2	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,470	3
951	E2010 - FIXED FURNISHINGS	E2010.30.008	1st Floor / Apparatus Bay	Plastic laminate base cabinet and countertop are in poor condition.	Remove and replace with new plastic laminate base cabinet and countertop.	4	LF	$2,340	$7,230	3

Fire Station 1

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
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Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
957	G2030 - PEDESTRIAN PLAZAS AND WALKWAYS	G2030.20.002	Exterior / Exterior	Brick control joint sealants are failing.	Remove/replace pavement sealant at control joints.	360	LF	$1,650	$5,100	3
944	B2010 - EXTERIOR WALLS	B2010.10.004	1st Floor / Center Apparatus	Brick masonry is damaged.	Repair brick masonry.	8	LF	$140	$450	4
948	B2010 - EXTERIOR WALLS	B2010.50.004	Roof / -	Elastomeric sealant at the roof reglets are failing.	Remove old sealant, clean the associated joints and re-seal it with new sealant.	100	LF	$290	$930	4
964	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.003	Exterior / Exterior	Metal door is showing signs of wear.	Refinish metal door.	7	EA	$1,200	$3,870	4
953	C1030 - INTERIOR DOORS	C1030.90.003	1st Floor / Tools (Shop)	Metal door and frames are in fair to poor condition.	Repair and refinish the metal door and frame.	2	EA	$570	$1,840	4
781	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.0012	1st Floor / Electrical	The 1000A 3-section main switchboard is approaching the end of its expected useful life.	Replace the existing switchboard with a new switchboard.	3	EA	$45,430	$146,360	4
779	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1008	1st / Electrical	The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	2	EA	$13,230	$42,620	4
783	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1008	1st Floor / Closet	The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$6,620	$21,330	4
775	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1008	2nd Floor / Closet	The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$6,620	$21,330	4
780	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1008	1st Floor / Electrical	The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$6,620	$21,330	4
776	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1008	2nd Floor / Closet	The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$6,620	$21,330	4
967	E2010 - FIXED FURNISHINGS	E2010.30.001	1st Floor / Men's Shower	Plastic laminate countertops are at or are approaching the end of their useful life.	Repair or replace plastic laminate countertops.	10	LF	$460	$1,480	4
950	G2030 - PEDESTRIAN PLAZAS AND WALKWAYS	G2030.20.002	1st Floor / Apparatus Bay	The floor sealant on the slab control joints are failing.	Remove/replace pavement sealant at control joints.	570	LF	$2,610	$8,410	4

Fire Station 1

DEFICIENCY TABLE

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
910	A4010 - STANDARD SLABS-ON-GRADE	A4010.10.001	1st Floor / Electrical room	Moderate cracking in concrete slab in electrical room.	Fill the slab-on-grade cracks with caulking.	15	LF	$120	$400	5
899	B1010 - FLOOR CONSTRUCTION	B1010.20.007	Site / -	Paint on steel facade structure is peeling / wearing away.	Repaint metal façade structure.	200	SF	$2,290	$7,680	5
916	B1020 - ROOF CONSTRUCTION	B1020.30.001	2nd Floor / Lobby	Tube steel canopy showing signs of rusting.	Clean rusted areas and repaint.	40	LF	$1,350	$4,530	5
907	B2010 - EXTERIOR WALLS	B2010.10.004	Site / -	Brick veneer damaged; crack runs from top to bottom of column corner	Repair brick masonry.	50	LF	$860	$2,880	5
898	B2010 - EXTERIOR WALLS	B2010.10.004	Site / -	Brick veneer damaged; crack runs from top to bottom of building corner.	Repair brick masonry.	50	LF	$860	$2,880	5
900	B2010 - EXTERIOR WALLS	B2010.10.009	Roof / -	Stucco is showing signs of cracking.	Clean, patch, and repair the cement plaster wall finish.	100	SF	$1,950	$6,540	5
903	B2020 - EXTERIOR WINDOWS	B2020.20.010	Roof / -	Window sealant is approaching the end of its useful life and cracking.	Replace window sealant.	16	LF	$150	$500	5
952	B2050 - EXTERIOR DOORS AND GRILLES	B2050.20.002	1st Floor / Air /Hose	Metal door and frames are damaged or deteriorated.	Repair door and repaint.	2	EA	$2,750	$9,220	5
913	C1020 - INTERIOR WINDOWS	C1020.90.001	1st Floor / Dorms	Wood window sill has deteriorated.	Remove and replace the existing wood sill with new wood sill.	9	EA	$2,060	$6,910	5
968	C1030 - INTERIOR DOORS	C1030.90.003	1st Floor / -	Chipped paint on metal door frames. Typical of all frames.	Repair and refinish the metal door frames.	14	EA	$4,010	$13,440	5
905	C2030 - FLOORING	C2030.10.002	1st Floor / Shop	Epoxy is approaching the end of its useful life.	Remove the existing epoxy and replace.	200	SF	$3,440	$11,530	5
904	C2030 - FLOORING	C2030.10.002	1st Floor / App bay	Epoxy flooring is approaching the end of its useful life.	Remove the existing epoxy and replace.	5,600	SF	$96,180	$322,450	5
908	C2050 - CEILING FINISHES	C2050.10.001	1st Floor / Dorm 1	Painted gypsum wallboard is approaching the end of its useful life.	Remove the existing gypsum board and replace. Tape and paint.	20	SF	$140	$470	5
974	C2050 - CEILING FINISHES	C2050.80.001	2nd Floor / Open office	Lay-in acoustical ceiling tile is in poor condition.	Remove existing tiles and replace with new lay-in acoustical ceiling tiles.	100	SF	$540	$1,810	5
955	C2050 - CEILING FINISHES	C2050.80.001	1st Floor / South Corridor	Lay-in acoustical ceiling tile is in poor condition.	Remove existing tiles and replace with new lay-in acoustical ceiling tiles.	1,000	SF	$5,350	$17,940	5

Fire Station 1

DEFICIENCY TABLE

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
954	C2050 - CEILING FINISHES	C2050.80.001	1st Floor / Exercise	Lay-in acoustical ceiling tile is in poor condition.	Remove existing tiles and replace with new lay-in acoustical ceiling tiles.	160	SF	$860	$2,880	5
915	C2050 - CEILING FINISHES	C2050.80.001	2nd Floor / Lobby	Lay-in acoustical ceiling tile is in poor condition.	Remove existing tiles and replace with new lay-in acoustical ceiling tiles.	1,000	SF	$5,350	$17,940	5
909	D3060 - VENTILATION	D3060.70.001	1st Floor / Dorm 7	Loose air register.	Provide equipment maintenance.	4	SF	$10	$30	5
787	D5040 - LIGHTING	D5040.50.009	All / Various	Interior lighting systems are at or are approaching the end of their expected useful lives.	Replace the existing interior lighting systems and associated wiring devices, switches and controls.	17,800	SF	$351,570	$1,178,650	5
976	D5040 - LIGHTING	D5040.50.305	Site / -	The wall pack is approaching the end of its useful life and should be replaced.	Replace the existing lighting fixture with a new lighting fixture.	4	EA	$3,920	$13,140	5
906	E2010 - FIXED FURNISHINGS	E2010.30.008	1st Floor / App bay	Plastic laminate base cabinet and countertop are in poor condition.	Remove and replace with new plastic laminate base cabinet and countertop.	10	LF	$5,840	$19,580	5
962	E2010 - FIXED FURNISHINGS	E2010.30.009	1st Floor / Kitchen	Plastic laminate casework is at or will be approaching the end of its expected useful life.	Provide new plastic laminate casework (upper, lower, and countertop)	20	LF	$15,390	$51,600	5
972	G2030 - PEDESTRIAN PLAZAS AND WALKWAYS	G2030.20.002	1st Floor / East Corridor	No sealant in control joints.	Add sealant at control joints.	1,000	LF	$4,580	$15,350	5
970	C2030 - FLOORING	C2030.75.001	1st Floor / Dorms	Carpets are matted.	Replace carpet tile.	1,600	SF	$14,660	$51,070	6
824	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.003	1st Floor / Laundry	Gas fired water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,850	$30,830	6
823	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.020	1st Floor / Tools	Electric water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$1,180	$4,110	6
792	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.020	1st Floor / Apparatus	Electric water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$1,180	$4,110	6
797	D3020 - HEATING SYSTEMS	D3020.70.003	1st Floor / Tools	Gas fired unit heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,250	$14,800	6

Fire Station 1

DEFICIENCY TABLE

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Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
800	D3020 - HEATING SYSTEMS	D3020.70.003	1st Floor / Apparatus	Gas fired unit heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,250	$14,800	6
802	D3020 - HEATING SYSTEMS	D3020.70.003	1st Floor / Apparatus	Gas fired unit heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,250	$14,800	6
818	D3030 - COOLING SYSTEMS	D3030.70.014	Roof / -	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$29,920	6
825	E1030 - COMMERCIAL EQUIPMENT	E1030.40.001	1st Floor / Laundry	Central vacuum system is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$37,160	$129,450	6
961	E2010 - FIXED FURNISHINGS	E2010.30.009	First Floor / Dining	Plastic laminate casework is at or will be approaching the end of its expected useful life.	Provide new plastic laminate casework (upper, lower, and countertop)	6	LF	$4,620	$16,090	6

Fire Station 1

Record ID: 775
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1008
Floor/Room: 2nd Floor / Closet
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $21,330
Deficiency Description: *The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing panelboard with a new panelboard.*
Comments:

Record ID: 776
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1008
Floor/Room: 2nd Floor / Closet
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $21,330
Deficiency Description: *The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing panelboard with a new panelboard.*
Comments:

Record ID: 778
System: D7050 - DETECTION AND ALARM
Item No.: D7050.10.022
Floor/Room: All / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 17,800/SF
Total Deficiency Cost: $430,950
Deficiency Description: *The existing fire alarm system is at the end of its industry rated useful life.*
Description of Work: *Provide a fully addressable fire alarm control panel with associated initiating and signaling devices.*
Comments:

Fire Station 1

Record ID: 779
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1008
Floor/Room: 1st / Electrical
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $42,620
Deficiency Description: *The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing panelboard with a new panelboard.*
Comments:

Record ID: 780
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1008
Floor/Room: 1st Floor / Electrical
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $21,330
Deficiency Description: *The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing panelboard with a new panelboard.*
Comments:

Record ID: 781
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.0012
Floor/Room: 1st Floor / Electrical
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 3/EA
Total Deficiency Cost: $146,360
Deficiency Description: *The 1000A 3-section main switchboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing switchboard with a new switchboard.*
Comments:

Fire Station 1

Record ID: 782
System: D5040 - LIGHTING

Item No.: D5040.10.002
Floor/Room: 1st Floor / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 17,800/SF
Total Deficiency Cost: $66,300
Deficiency Description: *The low voltage lighting relays and switches are approaching the end of their expected useful life.*

Description of Work: *Replace the existing switches and provide a new lighting control system.*

Comments:

Record ID: 783
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION

Item No.: D5020.30.1008
Floor/Room: 1st Floor / Closet
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $21,330
Deficiency Description: *The 225A (42 ckts, 120/208, 3P) panelboard is approaching the end of its expected useful life.*

Description of Work: *Replace the existing panelboard with a new panelboard.*

Comments:

Record ID: 784
System: D5010 - FACILITY POWER GENERATION

Item No.: D5010.10.003
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $143,780
Deficiency Description: *The 100kW Diesel engine (including battery, charger, muffler, day tank) is at or is approaching end of its expected useful life.*

Description of Work: *Replace the existing generator with an appropriately sized new generator.*

Comments:

Fire Station 1

Record ID: 786
System: G2020 - PARKING LOTS

Item No.: G2020.70.014
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 5/EA
Total Deficiency Cost: $4,670
Deficiency Description: *Existing lighting pole shows wear and should be retrofitted to be an LED fixture.*

Description of Work: *Retrofit the lighting pole with an LED fixture, clean and repaint pole.*

Comments:

Record ID: 787
System: D5040 - LIGHTING

Item No.: D5040.50.009
Floor/Room: All / Various
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 17,800/SF
Total Deficiency Cost: $1,178,650
Deficiency Description: *Interior lighting systems are at or are approaching the end of their expected useful lives.*

Description of Work: *Replace the existing interior lighting systems and associated wiring devices, switches and controls.*

Comments: *Lighting past its expected life but in but in good condition.*

Record ID: 792
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.020
Floor/Room: 1st Floor / Apparatus
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $4,110
Deficiency Description: *Electric water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 1

Record ID: 793
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Turnout
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 794
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Air and Hose
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 797
System: D3020 - HEATING SYSTEMS

Item No.: D3020.70.003
Floor/Room: 1st Floor / Tools
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $14,800
Deficiency Description: *Gas fired unit heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 1

Record ID: 798
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Tools
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 800
System: D3020 - HEATING SYSTEMS

Item No.: D3020.70.003
Floor/Room: 1st Floor / Apparatus
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $14,800
Deficiency Description: *Gas fired unit heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 802
System: D3020 - HEATING SYSTEMS

Item No.: D3020.70.003
Floor/Room: 1st Floor / Apparatus
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $14,800
Deficiency Description: *Gas fired unit heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 1

Record ID: 818
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.014
Floor/Room: Roof / -
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $29,920
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments: *Serves server room on 2nd floor.*

Record ID: 820
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 2nd Floor / Bath 1
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 821
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 2nd Floor / Bath 2
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 1

Record ID: 823
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.020
Floor/Room: 1st Floor / Tools
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $4,110
Deficiency Description: *Electric water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 824
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.003
Floor/Room: 1st Floor / Laundry
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $30,830
Deficiency Description: *Gas fired water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 825
System: E1030 - COMMERCIAL EQUIPMENT

Item No.: E1030.40.001
Floor/Room: 1st Floor / Laundry
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $129,450
Deficiency Description: *Central vacuum system is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 1

Record ID: 830
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Elevator
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 832
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Electrical
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,470
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 898
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/LF
Total Deficiency Cost: $2,880
Deficiency Description: *Brick veneer damaged; crack runs from top to bottom of building corner.*

Description of Work: *Repair brick masonry.*

Comments:

Fire Station 1

Record ID: 899
System: B1010 - FLOOR CONSTRUCTION
Item No.: B1010.20.007
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 200/SF
Total Deficiency Cost: $7,680
Deficiency Description: *Paint on steel facade structure is peeling / wearing away.*
Description of Work: *Repaint metal façade structure.*
Comments:

Record ID: 900
System: B2010 - EXTERIOR WALLS
Item No.: B2010.10.009
Floor/Room: Roof / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 100/SF
Total Deficiency Cost: $6,540
Deficiency Description: *Stucco is showing signs of cracking.*
Description of Work: *Clean, patch, and repair the cement plaster wall finish.*
Comments:

Record ID: 901
System: D2030 - BUILDING SUPPORT PLUMBING SYSTEMS
Item No.: D2030.30.001
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $6,780
Deficiency Description: *Roof drains are damaged and clogged.*
Description of Work: *Repair or replace roof drains.*
Comments:

Fire Station 1

Record ID: 902
System: B3060 - HORIZONTAL OPENINGS

Item No.: B3060.10.001
Floor/Room: Roof / -
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 8/SF
Total Deficiency Cost: $2,130
Deficiency Description: *Original prismatic skylight 2 x 4 are past useful life*

Description of Work: *Remove the existing skylight and replace it with a new skylight.*

Comments: *Known to leak when open.*

Record ID: 903
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.010
Floor/Room: Roof / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 16/LF
Total Deficiency Cost: $500
Deficiency Description: *Window sealant is approaching the end of its useful life and cracking.*

Description of Work: *Replace window sealant.*

Comments:

Record ID: 904
System: C2030 - FLOORING

Item No.: C2030.10.002
Floor/Room: 1st Floor / App bay
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 5,600/SF
Total Deficiency Cost: $322,450
Deficiency Description: *Epoxy flooring is approaching the end of its useful life.*

Description of Work: *Remove the existing epoxy and replace.*

Comments:

Fire Station 1

Record ID: 905
System: C2030 - FLOORING

Item No.: C2030.10.002
Floor/Room: 1st Floor / Shop
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 200/SF
Total Deficiency Cost: $11,530
Deficiency Description: *Epoxy is approaching the end of its useful life.*

Description of Work: *Remove the existing epoxy and replace.*

Comments:

Record ID: 906
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.008
Floor/Room: 1st Floor / App bay
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $19,580
Deficiency Description: *Plastic laminate base cabinet and countertop are in poor condition.*

Description of Work: *Remove and replace with new plastic laminate base cabinet and countertop.*

Comments:

Record ID: 907
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/LF
Total Deficiency Cost: $2,880
Deficiency Description: *Brick veneer damaged; crack runs from top to bottom of column corner*

Description of Work: *Repair brick masonry.*

Comments:

Fire Station 1

Record ID: 908
System: C2050 - CEILING FINISHES

Item No.: C2050.10.001
Floor/Room: 1st Floor / Dorm 1
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 20/SF
Total Deficiency Cost: $470
Deficiency Description: *Painted gypsum wallboard is approaching the end of its useful life.*

Description of Work: *Remove the existing gypsum board and replace. Tape and paint.*

Comments:

Record ID: 909
System: D3060 - VENTILATION

Item No.: D3060.70.001
Floor/Room: 1st Floor / Dorm 7
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 4/SF
Total Deficiency Cost: $30
Deficiency Description: *Loose air register.*

Description of Work: *Provide equipment maintenance.*

Comments:

Record ID: 910
System: A4010 - STANDARD SLABS-ON-GRADE

Item No.: A4010.10.001
Floor/Room: 1st Floor / Electrical room
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 15/LF
Total Deficiency Cost: $400
Deficiency Description: *Moderate cracking in concrete slab in electrical room.*

Description of Work: *Fill the slab-on-grade cracks with caulking.*

Comments:

Fire Station 1

Record ID: 911
System: C2010 - WALL FINISHES

Item No.: C2010.70.001
Floor/Room: 1st Floor / Dorm 8
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 12/SF
Total Deficiency Cost: $280
Deficiency Description: *Painted gypsum wallboard is showing signs of wear.*

Description of Work: *Patch and paint the gypsum wallboard.*

Comments: *Water damage observed above windows in Dorm Rooms 7 & 8.*

Record ID: 913
System: C1020 - INTERIOR WINDOWS

Item No.: C1020.90.001
Floor/Room: 1st Floor / Dorms
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 9/EA
Total Deficiency Cost: $6,910
Deficiency Description: *Wood window sill has deteriorated.*

Description of Work: *Remove and replace the existing wood sill with new wood sill.*

Comments: *Window sill finish is worn typ all 8' 7"*

Record ID: 914
System: C1020 - INTERIOR WINDOWS

Item No.: C1020.90.001
Floor/Room: 2nd Floor / Finance manager office
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $710
Deficiency Description: *Wood sill is worn and cracking.*

Description of Work: *Remove and replace the existing wood sill with new wood sill.*

Comments: *Window is 7'-11"*

Fire Station 1

Record ID: 915
System: C2050 - CEILING FINISHES

Item No.: C2050.80.001
Floor/Room: 2nd Floor / Lobby
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1,000/SF
Total Deficiency Cost: $17,940
Deficiency Description: *Lay-in acoustical ceiling tile is in poor condition.*

Description of Work: *Remove existing tiles and replace with new lay-in acoustical ceiling tiles.*

Comments:

Record ID: 916
System: B1020 - ROOF CONSTRUCTION

Item No.: B1020.30.001
Floor/Room: 2nd Floor / Lobby
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 40/LF
Total Deficiency Cost: $4,530
Deficiency Description: *Tube steel canopy showing signs of rusting.*

Description of Work: *Clean rusted areas and repaint.*

Comments:

Record ID: 944
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: 1st Floor / Center Apparatus Bay Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 8/LF
Total Deficiency Cost: $450
Deficiency Description: *Brick masonry is damaged.*

Description of Work: *Repair brick masonry.*

Comments:

Fire Station 1

Record ID: 945
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.009
Floor/Room: 1st Floor / Left Apparatus Bay Door Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 2/SF
Total Deficiency Cost: $120
Deficiency Description: *Cement plaster finish is showing signs of cracking.*

Description of Work: *Clean, patch, and repair the cement plaster wall finish.*

Comments: *Above the overhead bay door.*

Record ID: 946
System: B3010 - ROOFING

Item No.: B3010.50.004
Floor/Room: Roof / -
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 10/SF
Total Deficiency Cost: $400
Deficiency Description: *Modified-bitumen roofing is showing signs of wear.*

Description of Work: *Replace modified bitumen roofing.*

Comments: *Located on the west end of the low slope roof.*

Record ID: 948
System: B2010 - EXTERIOR WALLS

Item No.: B2010.50.004
Floor/Room: Roof / -
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 100/LF
Total Deficiency Cost: $930
Deficiency Description: *Elastomeric sealant at the roof reglets are failing.*

Description of Work: *Remove old sealant, clean the associated joints and re-seal it with new sealant.*

Comments: *At low-sloping roof.*

Fire Station 1

Record ID: 949
System: B2010 - EXTERIOR WALLS

Item No.: B2010.50.005
Floor/Room: Roof / -
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 40/LF
Total Deficiency Cost: $250
Deficiency Description: *Paint finish at parapet wall cap is worn.*

Description of Work: *Repaint sheet metal cap.*

Comments: *Located at west parapet.*

Record ID: 950
System: G2030 - PEDESTRIAN PLAZAS AND WALKWAYS

Item No.: G2030.20.002
Floor/Room: 1st Floor / Apparatus Bay
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 570/LF
Total Deficiency Cost: $8,410
Deficiency Description: *The floor sealant on the slab control joints are failing.*

Description of Work: *Remove/replace pavement sealant at control joints.*

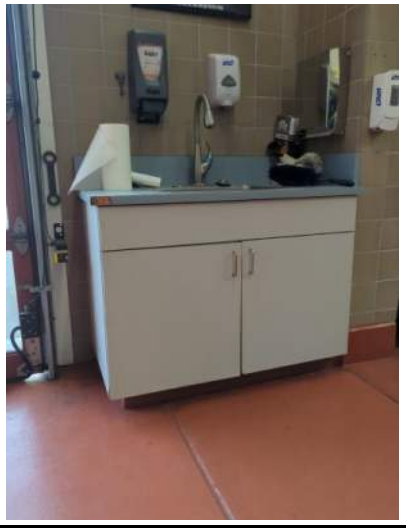
Comments:

Record ID: 951
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.008
Floor/Room: 1st Floor / Apparatus Bay
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 4/LF
Total Deficiency Cost: $7,230
Deficiency Description: *Plastic laminate base cabinet and countertop are in poor condition.*

Description of Work: *Remove and replace with new plastic laminate base cabinet and countertop.*

Comments:



Fire Station 1

Record ID: 952
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.20.002
Floor/Room: 1st Floor / Air /Hose
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $9,220
Deficiency Description: *Metal door and frames are damaged or deteriorated.*

Description of Work: *Repair door and repaint.*

Comments:

Record ID: 953
System: C1030 - INTERIOR DOORS

Item No.: C1030.90.003
Floor/Room: 1st Floor / Tools (Shop)
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $1,840
Deficiency Description: *Metal door and frames are in fair to poor condition.*

Description of Work: *Repair and refinish the metal door and frame.*

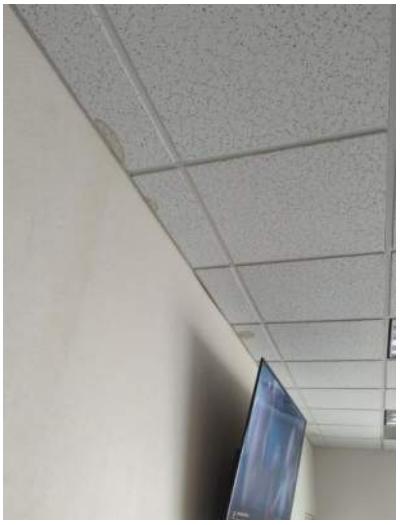
Comments:

Record ID: 954
System: C2050 - CEILING FINISHES

Item No.: C2050.80.001
Floor/Room: 1st Floor / Exercise
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 160/SF
Total Deficiency Cost: $2,880
Deficiency Description: *Lay-in acoustical ceiling tile is in poor condition.*

Description of Work: *Remove existing tiles and replace with new lay-in acoustical ceiling tiles.*

Comments: *Signs of water damage were observed. Per staff, source of water was leak in low slope roof cricket above.*



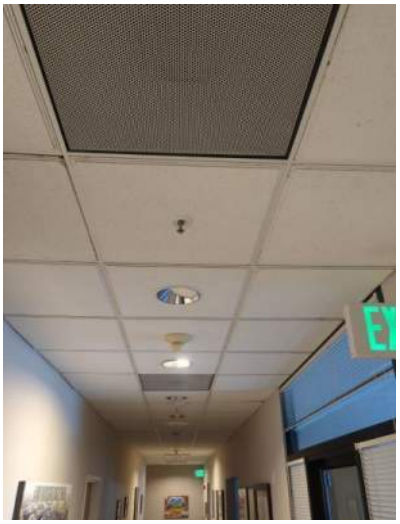
Fire Station 1

Record ID: 955
System: C2050 - CEILING FINISHES

Item No.: C2050.80.001
Floor/Room: 1st Floor / South Corridor
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1,000/SF
Total Deficiency Cost: $17,940
Deficiency Description: *Lay-in acoustical ceiling tile is in poor condition.*

Description of Work: *Remove existing tiles and replace with new lay-in acoustical ceiling tiles.*

Comments:



Record ID: 956
System: B3010 - ROOFING

Item No.: B3010.90.010
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 12/LF
Total Deficiency Cost: $430
Deficiency Description: *The fascia is deteriorated and shows signs of wood rot.*

Description of Work: *Selectively remove deteriorated fascia and replace with new material to match.*

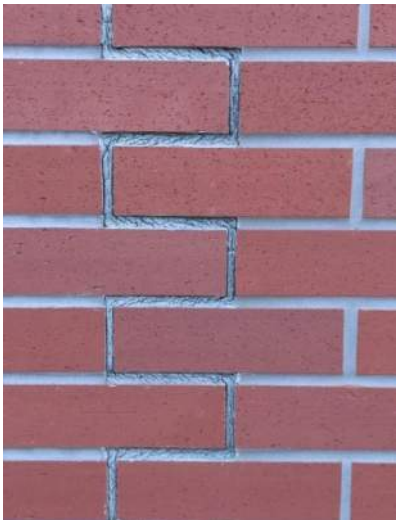
Comments:

Record ID: 957
System: G2030 - PEDESTRIAN PLAZAS AND WALKWAYS

Item No.: G2030.20.002
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 360/LF
Total Deficiency Cost: $5,100
Deficiency Description: *Brick control joint sealants are failing.*

Description of Work: *Remove/replace pavement sealant at control joints.*

Comments: *Full brick units are used at all control joints so joints are not vertical per typical practice.*



Fire Station 1

Record ID: 958
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: 1st Floor / Exercise Room Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 5/LF
Total Deficiency Cost: $280
Deficiency Description: *Brick masonry is showing signs of cracking.*

Description of Work: *Repair brick masonry.*

Comments:

Record ID: 960
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.010
Floor/Room: 1st floor / Apparatus OH Doors
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1,600/LF
Total Deficiency Cost: $45,310
Deficiency Description: *Sealant for glazing panes are failing.*

Description of Work: *Replace window sealant.*

Comments:

Record ID: 961
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.009
Floor/Room: First Floor / Dining
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 6/LF
Total Deficiency Cost: $16,090
Deficiency Description: *Plastic laminate casework is at or will be approaching the end of its expected useful life.*

Description of Work: *Provide new plastic laminate casework (upper, lower, and countertop)*

Comments:

Fire Station 1

Record ID: 962
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.009
Floor/Room: 1st Floor / Kitchen
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 20/LF
Total Deficiency Cost: $51,600
Deficiency Description: *Plastic laminate casework is at or will be approaching the end of its expected useful life.*

Description of Work: *Provide new plastic laminate casework (upper, lower, and countertop)*

Comments:

Record ID: 963
System: C1030 - INTERIOR DOORS

Item No.: C1030.25.002
Floor/Room: 1st Floor / Kitchen
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $2,130
Deficiency Description: *Interior door does not operate properly.*

Description of Work: *Repair interior aluminum sliding door.*

Comments:

Record ID: 964
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.003
Floor/Room: Exterior / Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 7/EA
Total Deficiency Cost: $3,870
Deficiency Description: *Metal door is showing signs of wear.*

Description of Work: *Refinish metal door.*

Comments: *Typical for all exterior doors.*

Fire Station 1

Record ID: 965
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.010
Floor/Room: 1st Floor / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 400/LF
Total Deficiency Cost: $10,830
Deficiency Description: *East window sealant (elastomeric) near failing.*

Description of Work: *Replace window sealant.*

Comments: *Typical for all windows on brick.*

Record ID: 966
System: C2030 - FLOORING

Item No.: C2030.20.001
Floor/Room: 1st Floor / Men's Shower
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 100/SF
Total Deficiency Cost: $7,020
Deficiency Description: *Ceramic tile flooring is showing signs of cracking.*

Description of Work: *Remove the existing ceramic tile flooring and replace.*

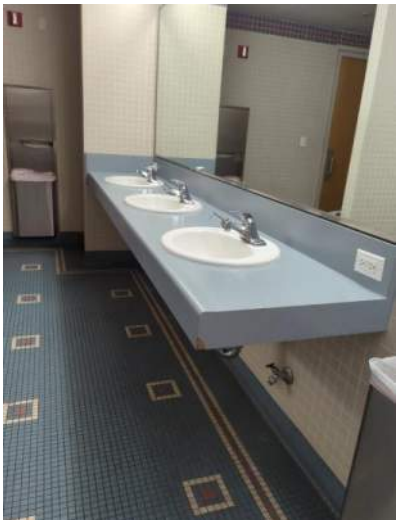
Comments:

Record ID: 967
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.001
Floor/Room: 1st Floor / Men's Shower
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $1,480
Deficiency Description: *Plastic laminate countertops are at or are approaching the end of their useful life.*

Description of Work: *Repair or replace plastic laminate countertops.*

Comments:



Fire Station 1

Record ID: 968
System: C1030 - INTERIOR DOORS

Item No.: C1030.90.003
Floor/Room: 1st Floor / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 14/EA
Total Deficiency Cost: $13,440
Deficiency Description: *Chipped paint on metal door frames. Typical of all frames.*

Description of Work: *Repair and refinish the metal door frames.*

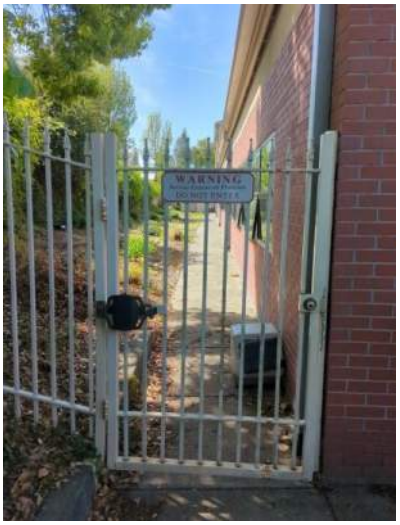
Comments:

Record ID: 969
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.70.001
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/LS
Total Deficiency Cost: $5,320
Deficiency Description: *Security gate does not latch.*

Description of Work: *Install a new gate and associated gate hardware.*

Comments: *Remount posts on grade and not on curb which is shifting.*



Record ID: 970
System: C2030 - FLOORING

Item No.: C2030.75.001
Floor/Room: 1st Floor / Dorms
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1,600/SF
Total Deficiency Cost: $51,070
Deficiency Description: *Carpets are matted.*

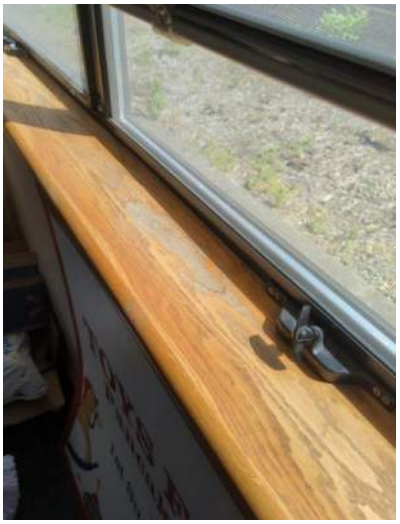
Description of Work: *Replace carpet tile.*

Comments: *Typical to all dorms.*

Fire Station 1

Record ID: 972
System: G2030 - PEDESTRIAN PLAZAS AND WALKWAYS
Item No.: G2030.20.002
Floor/Room: 1st Floor / East Corridor
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1,000/LF
Total Deficiency Cost: $15,350
Deficiency Description: *No sealant in control joints.*
Description of Work: *Add sealant at control joints.*
Comments: *Typical for all corridor joints.*

Record ID: 973
System: C1020 - INTERIOR WINDOWS
Item No.: C1020.90.001
Floor/Room: 1st Floor / Chief Dorm
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $710
Deficiency Description: *Warped/damaged window sill.*
Description of Work: *Remove and replace the existing wood sill with new wood sill.*
Comments:



Record ID: 974
System: C2050 - CEILING FINISHES
Item No.: C2050.80.001
Floor/Room: 2nd Floor / Open office
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 100/SF
Total Deficiency Cost: $1,810
Deficiency Description: *Lay-in acoustical ceiling tile is in poor condition.*
Description of Work: *Remove existing tiles and replace with new lay-in acoustical ceiling tiles.*
Comments:

Fire Station 1

Record ID: 975
System: C1010 - INTERIOR PARTITIONS

Item No.: C1010.10.001
Floor/Room: 2nd Floor / Deputy Fire Marshal Work Area
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 3/SF
Total Deficiency Cost: $30
Deficiency Description: *Damaged drywall at window jamb.*

Description of Work: *Remove and replace existing gypsum board with a new gypsum board and expansion joints. Tape and paint.*

Comments:

Record ID: 976
System: D5040 - LIGHTING

Item No.: D5040.50.305
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 4/EA
Total Deficiency Cost: $13,140
Deficiency Description: *The wall pack is approaching the end of its useful life and should be replaced.*

Description of Work: *Replace the existing lighting fixture with a new lighting fixture.*

Comments:

Fire Station 3
Detailed Report
Address: 8600 Windsor Road, Windsor, CA 95492

Statistics

Year Built (approximate):	2009
Total Building Area:	10,000 SF

FCA Summary

Capital Renewal Cost:	**$1,408,926**
FCI:	0.088
Condition Score:	B
Condition Rating:	Fair
Replacement Cost:	$16,089,000
Replacement Cost/SF:	$1,609

Narratives

Architectural Systems

Sonoma County Fire District Station 3 is located at 8600 Windsor Road in Windsor, California. The single-story, 8,500-square-foot fire station and 1,500-square-foot shop building were dedicated in 2009. Interior spaces consist of a two-bay apparatus bay, four dormitories, a kitchen, offices, day room, turnout room, fitness room, hose storage, and a clean and dirty shop.

The exterior walls are of wood-frame construction with timber columns present. The roof structure is wood frame with a steel-frame system present in the apparatus bay. Exterior finishes consist of non-load-bearing brick walls and cement wallboard. The building features metal-clad wood windows, equipped with insulated glazing units. The main entrance features double-height aluminum storefront glazing. The double apparatus bay, opening onto Windsor Road, features painted steel bi-fold doors in wood casing. The roofing consists of arched metal panels, with single-ply roofing around the rooftop mechanical units. Overall, the exterior finishes are in fair condition. The brick walls are exhibiting stress cracks in several places, most likely due to structural settlement and impact damage. Additionally, the sealant on the exterior wall control joints has reached the end of its useful life and requires replacement.

Interior finishes include epoxy-coated concrete in the apparatus bay, clear-finished ground concrete in the living spaces, carpeting in the dormitories and office areas, and ceramic tile flooring in the kitchen and bathrooms. Overall, the interior finishes are in good condition.

Mechanical Systems

Mechanical Systems

The mechanical system at Fire Station 3 is serviced by six split system air conditioning units and three ductless split system air conditioning units that service the administrative spaces, living quarters, and fire department spaces. Four gas unit heaters serve the apparatus bay and turnout room. Eight ceiling exhaust fans and an in-line exhaust fan serve the building. A Plymovent system serves each parking bay in the main apparatus bay and the secondary apparatus bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a shop air compressor. The ceiling exhaust fans, split system air conditioning units, ductless air conditioning units, gas unit heaters, and exhaust fans are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

Plumbing Systems

The plumbing systems at Fire Station 3 are serviced by domestic cold and hot water, sanitary waste, storm drains, gas and vent piping. The domestic hot water is serviced by one gas water heater and one point-of-use instantaneous water heater the serves most of the building. Flush valve water closets, lavatories, sinks, urinals, and showers were observed. The point-of-use instantaneous water heater is recommended for replacement within a 10-year period.

Fire Protection Systems

The building is fire sprinklered and portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

Electrical Systems

Power Distribution

The fire station does not contain a PG&E meter on its property.

Electrical service to the building is delivered underground from a PG&E meter and disconnect switch located in the adjacent County Public Works building. The feeder runs underground to a dedicated electrical room at the fire station and terminates in the main panelboard 'DP". Panelboard "DP' is rated for 400A, 277/480V, three phase. This panel feeds an outdoor dry-type, 150KVA transformer. This transformer sub-feeds panelboard "LA" within the same electrical room. All the electrical equipment appears original to the 2009 installation. The panelboards are GE A-Series II type and appeared to be in good overall condition.

The outdoor transformer had some signs of rust, and the landscaping was in contact with the enclosure. The landscaping should be cut back to protect the enclosure and to keep debris out of the vented openings of the equipment.

The interior mechanical room contains two additional electrical panelboards that are similar to GE and appeared to be in good condition. These panelboards contained arc flash warning labels. The shop building contains a panelboard for that structure.

This electrical distribution equipment is approximately at the mid-life of its expected useful life. With preventative maintenance, the remaining life is beyond the timeline of this report.

Standby Power

Fire Station 3 does not have a generator on its property. The main incoming feeder to the fire station from the County Public Works building is provided standby power by the generator at the building's corporation yard. This generator is a large 300KW MQ model with a 2003 installation date. Located outdoors, the generator supplies several other loads within the Public Works building. The generator is supplied with diesel fuel from a subbase fuel tank. Signs of rust were observed on the generator's enclosure.

Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. Neither of these were present.

The generator is nearing the end of its expected life. It is beyond the scope of this FCA to investigate equipment on other properties that supply non-fire station related buildings. For costing and planning purposes, we have included a replacement cost for a 100KW generator located on the property and dedicated to the fire station when the existing generator reaches the end of its expected life.

Solar

A portion of the parking lot has a carport structure with solar modules. No shading concerns were observed. There are two SunPower string inverters located in the electrical room. The inverters appeared to be in good condition. The system was installed in 2009 and is nearing the end of its expected useful life. The amount of power produced by the system could not be determined without load monitoring of the production. Although the photovoltaic (PV) system is not critical to the operation of the fire system, it contributes to energy savings.

Electrical Systems (cont'd)

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp pendant mounted strip fixtures. The residential portions typically contain downlights with low voltage track lights in the kitchen/ dining room.

The dorm rooms contain ceiling fans with integral lighting. The corridor has pendant mounted fixtures. The station space is visually comfortable and has a non-institutional, residential look.

Several of the original fluorescent fixtures have been relamped to LED.

The interior lighting is nearing the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixture with a pure LED based type when these systems reach their expected end of useful life in the next five years.

The exterior lighting consists of light poles and wall mounted fixtures around the perimeter of the fire station. There is also under canopy lighting in the walkway connecting to the shop. The wall-mounted and under canopy fixtures show signs of weathering and dirt depreciation; however, there were no obvious signs of damage or degradation noted. The light poles are square type with shoebox fixtures. The poles showed dirt build up and early signs of rust but overall looked in fair condition.

Although aging and nearing the end of its expected life, the exterior lighting should remain functional for several more years.

Fire Alarm Systems

The station has a Silent Knight model 5700 main fire alarm panel in the telecom room that appeared original to the building. The control panel indicated all normal conditions.

The building contains smoke detectors and combination strobe/horns. The field devices appeared to be Silent Knight type and installed with the panel during the initial construction. There are smoke detectors located outside of the sleeping quarters. These appeared to be battery powered, single station type.

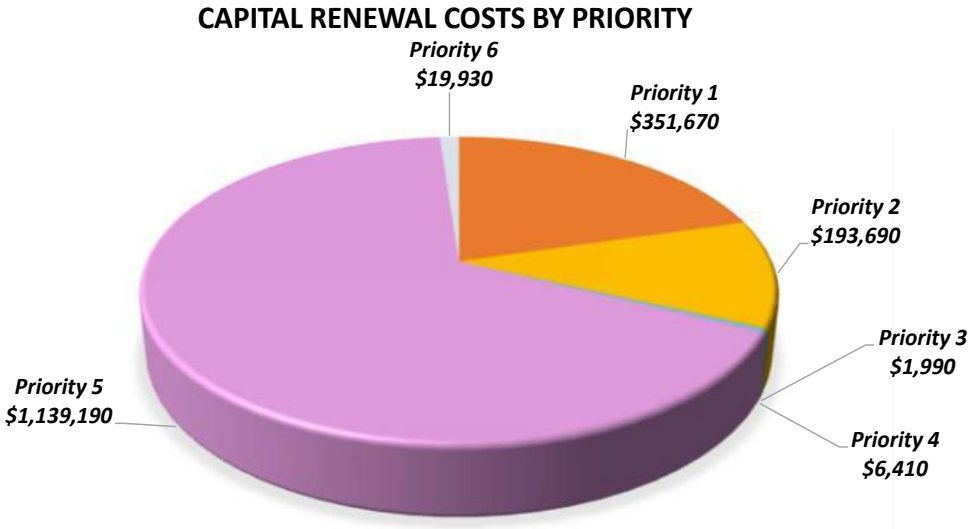
The fire alarm system is at the end of its expected service life. The Silent Knight 5700 control panel has been discontinued. Replacement components will likely become increasingly difficult to procure. Replacement is recommended.

Conclusion

For Fire Station 3, this chart summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart summarizes all of the more detailed information from the subsequent Deficiency Table. To supplement the Deficiency Table, representative photographs and descriptions are included.

Fire Station 3							
Capital Renewal Costs by Priority							
Building	**Priority 1** 8% Escalation	**Priority 2** 13% Escalation	**Priority 3** 18% Escalation	**Priority 4** 23% Escalation	**Priority 5** 28% Escalation	**Priority 6** 33% Escalation	**Total**
Fire Station 3	$351,670	$193,690	$1,990	$6,410	$1,139,190	$19,930	**$1,712,880**
Total	**$351,670**	**$193,690**	**$1,990**	**$6,410**	**$1,139,190**	**$19,930**	**$1,712,880**
	20.53%	11.31%	0.12%	0.37%	66.51%	1.16%	**100.00%**



Fire Station 3

Capital Renewal Cost:	**$1,408,926**	FCI:	**0.088**
Replacement Cost:	**$16,089,000**	Condition Score:	**B**
Replacement Cost/SF:	**$1,609**	Condition Rating:	**FAIR**

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	**$44,997**	-	-	$530	$1,100	$55,870	-
B2020	EXTERIOR WINDOWS	**$393**	-	-	-	$480	-	-
B2050	EXTERIOR DOORS AND GRILLES	**$21,006**	-	$860	-	$4,830	$20,890	-
B2070	EXTERIOR LOUVERS AND VENTS	**$157**	-	-	-	-	$200	-
B3010	ROOFING	**$11,393**	-	-	$1,240	-	$13,240	-
B3040	TRAFFIC BEARING HORIZONTAL ENCLOSURES	**$891**	-	-	-	-	$1,140	-
C1030	INTERIOR DOORS	**$891**	-	-	-	-	$1,140	-
D2010	DOMESTIC WATER DISTRIBUTION	**$1,493**	-	$1,690	-	-	-	-
D2060	PROCESS SUPPORT PLUMBING SYSTEMS	**$14,982**	-	-	-	-	-	$19,930
D3030	COOLING SYSTEMS	**$169,172**	-	$191,140	-	-	-	-
D3060	VENTILATION	**$16,763**	-	-	-	-	$21,440	-
D5010	FACILITY POWER GENERATION	**$464,220**	$143,780	-	-	-	$423,790	-
D5040	LIGHTING	**$470,166**	$1,220	-	-	-	$600,370	-
D7050	DETECTION AND ALARM	**$190,544**	$205,790	-	-	-	-	-
G2020	PARKING LOTS	**$864**	-	-	-	-	$1,110	-
G2030	PEDESTRIAN PLAZAS AND WALKWAYS	**$183**	-	-	$220	-	-	-
G2080	LANDSCAPING	**$812**	$880	-	-	-	-	-

Fire Station 3

Capital Renewal Cost:	**$1,408,926**	FCI:	**0.088**
Replacement Cost:	**$16,089,000**	Condition Score:	**B**
Replacement Cost/SF:	**$1,609**	Condition Rating:	**FAIR**

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)
TOTALS		**$1,408,926**	**$351,670**	**$193,690**	**$1,990**	**$6,410**	**$1,139,190**	**$19,930**
TOTAL (Priority 1-6 without escalation)		**$1,408,926**	**$1,712,880**					
			TOTAL (Priority 1-6 with escalation)					

Fire Station 3

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
754	D5010 - FACILITY POWER GENERATION	D5010.10.003	Site / -	The fire statiion is served by a generator on the adjacent property that serves other buildings and is nearing the end its expected useful life.	Provide a new 100KW generator on the fire station dedicated to the facility.	1	EA	$50,830	$143,780	1
741	D5040 - LIGHTING	D5040.50.003	1st / Fire sprinkler Room	Light fixture and motion sensor are damaged.	Replace the existing interior light fixture and sensore with new.	2	EA	$430	$1,220	1
745	D7050 - DETECTION AND ALARM	D7050.10.022	1st / Various	The building existing fire alarm system is at the end of its industry rated useful life.	Provide a fully addressable fire alarm control panel with associated initiating and signaling devices.	8,500	SF	$72,750	$205,790	1
743	G2080 - LANDSCAPING	G2080.30.007	Site / -	Exterior dry-type transformer is in contact with landscaping.	Create a clear space around equipment.	75	SF	$310	$880	1
926	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.011	Exterior / Exterior	South window gaskets failing.	Remove and replace failed window gaskets.	1	EA	$290	$860	2
667	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.006	1st Floor / Separate Apparatus	Instantaneous water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$570	$1,690	2
661	D3030 - COOLING SYSTEMS	D3030.70.006	Site / Site	Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,120	$12,190	2
678	D3030 - COOLING SYSTEMS	D3030.70.006	Site / Site	Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,120	$12,190	2
660	D3030 - COOLING SYSTEMS	D3030.70.007	Site / Site	Split system with furnace heating and (3-ton) outdoor condensing unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,810	$14,240	2
663	D3030 - COOLING SYSTEMS	D3030.70.014	Site / Site	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$25,420	2
662	D3030 - COOLING SYSTEMS	D3030.70.014	Site / Site	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$25,420	2
650	D3030 - COOLING SYSTEMS	D3030.70.014	Roof / -	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$25,420	2

Fire Station 3

DEFICIENCY TABLE

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
666	D3030 - COOLING SYSTEMS	D3030.70.014	Site / Site	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$25,420	2
664	D3030 - COOLING SYSTEMS	D3030.70.014	Site / -	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$25,420	2
665	D3030 - COOLING SYSTEMS	D3030.70.014	Site / Site	Split ductless AC unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,590	$25,420	2
920	B2010 - EXTERIOR WALLS	B2010.10.004	Exterior / Exterior	Hairline fractures on brick were observed.	Repair brick masonry.	10	LF	$170	$530	3
919	B3010 - ROOFING	B3010.90.002	Exterior / Exterior	Elastomeric sealant at expansion joint is failing.	Replace sealant at expansion joints.	14	LF	$400	$1,240	3
921	G2030 - PEDESTRIAN PLAZAS AND WALKWAYS	G2030.20.002	Exterior / Exterior	Sealant failure on wall intersection was observed.	Remove/replace sealant at joint.	16	LF	$70	$220	3
924	B2010 - EXTERIOR WALLS	B2010.10.004	Exterior / Exterior	Soldier brick outside corner is damaged.	Repair brick masonry.	20	LF	$340	$1,100	4
923	B2020 - EXTERIOR WINDOWS	B2020.20.010	Exterior / Exterior	Metal clad window gasket are failing.	Replace window gaskets.	16	LF	$150	$480	4
925	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.009	Exterior / Exterior	Sealant around sunshades are failing.	Replace sealant.	40	LF	$1,140	$3,670	4
922	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.010	1st Floor / Lobby	Entrance door astragal is missing.	Install missing astragal.	1	EA	$360	$1,160	4
880	B2010 - EXTERIOR WALLS	B2010.10.004	Site / -	Cracking in mortar joint across wall was observed.	Repair brick masonry.	10	LF	$170	$570	5
883	B2010 - EXTERIOR WALLS	B2010.10.004	Site / -	Significant vertical cracking of brick veneer was observed.	Repair brick masonry.	50	LF	$860	$2,880	5
875	B2010 - EXTERIOR WALLS	B2010.10.004	1st Floor / Site	Cracking in sealant in horizontal brick joint was observed.	Replace sealant in control joint.	400	LF	$6,870	$23,030	5
882	B2010 - EXTERIOR WALLS	B2010.10.004	Site / -	Significant vertical cracking of brick veneer was observed.	Repair brick masonry.	50	LF	$860	$2,880	5
881	B2010 - EXTERIOR WALLS	B2010.10.004	Site / -	Brick masonry is damaged.	Repair brick masonry.	50	LF	$860	$2,880	5
885	B2010 - EXTERIOR WALLS	B2010.10.006	Site / -	Trim is worn and should be replaced.	Replace trim and finish to match.	16	LF	$180	$600	5
879	B2010 - EXTERIOR WALLS	B2010.20.007	Site / -	Exterior cement fiber board vertical joints are failing.	Replace sealant in board joints.	400	LF	$6,870	$23,030	5

Fire Station 3

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
929	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.003	Exterior / Exterior	Metal door is showing signs of wear.	Refinish metal door.	1	EA	$170	$570	5
930	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.003	1st Floor / Hallway	Metal door is showing signs of wear.	Refinish metal door.	2	EA	$340	$1,140	5
928	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.011	1st Floor / Kitchen	The existing casework is in need of refurbishment.	Repair, refurbish, and refinish the existing wood casework and counters.	20	EA	$5,720	$19,180	5
927	B2070 - EXTERIOR LOUVERS AND VENTS	B2070.10.003	Exterior / Exterior	Pre finished air intake louver finish failing.	Clean and repaint louvers as required.	10	SF	$60	$200	5
878	B3010 - ROOFING	B3010.50.002	Roof / -	Single-ply roofing is approaching the end of its useful life.	Remove and replace single-ply roofing.	300	SF	$3,950	$13,240	5
877	B3040 - TRAFFIC BEARING HORIZONTAL ENCLOSURES	B3040.50.001	Roof / -	Rooftop walk pads are loose.	Reattach walk pads on roofing membrane.	20	SF	$340	$1,140	5
886	C1030 - INTERIOR DOORS	C1030.10.008	1st Floor / Laundry	Interior wood door is in visual need of refurbishment.	Refurbish and restain the wood door.	1	EA	$340	$1,140	5
677	D3060 - VENTILATION	D3060.30.002	1st Floor / Public Restroom	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
680	D3060 - VENTILATION	D3060.30.002	1st Floor / Restroom 2	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
681	D3060 - VENTILATION	D3060.30.002	1st Floor / Restroom 1	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
654	D3060 - VENTILATION	D3060.30.002	1st Floor / App Bay Restroom	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
653	D3060 - VENTILATION	D3060.30.002	1st Floor / Clean Shop	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
652	D3060 - VENTILATION	D3060.30.002	1st Floor / Shop	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
659	D3060 - VENTILATION	D3060.30.002	1st Floor / Janitor	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
676	D3060 - VENTILATION	D3060.30.002	1st Floor / Laundry	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5

Fire Station 3

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
744	D5010 - FACILITY POWER GENERATION	D5010.30.003	1st / Electrical	The stand-alone photovoltaic power system is in need of being replaced.	Replace the existing stand-alone photovoltaic power system and replace it with a new one.	10,000	W	$126,410	$423,790	5
739	D5040 - LIGHTING	D5040.10.002	1st / Electrical	The low voltage lighting relays and switches are approaching the end of their expected useful life.	Replace the existing switches and provide a new lighting control system.	8,500	SF	$11,190	$37,510	5
748	D5040 - LIGHTING	D5040.50.009	1st Floor / Various	Interior lighting systems are at or are approaching the end of their expected useful lives.	Replace the existing interior lighting systems and associated wiring devices, switches and controls.	8,500	SF	$167,890	$562,860	5
740	G2020 - PARKING LOTS	G2020.70.014	Site / -	Existing lighting pole shows wear and should be retrofitted to be an LED fixture.	Retrofit the lighting pole with an LED fixture, clean and repaint pole.	1	EA	$330	$1,110	5
648	D2060 - PROCESS SUPPORT PLUMBING SYSTEMS	D2060.10.001	1st Floor / Fire Riser	Air compressor is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$5,720	$19,930	6

Fire Station 3

Record ID: 648
System: D2060 - PROCESS SUPPORT PLUMBING SYSTEMS
Item No.: D2060.10.001
Floor/Room: 1st Floor / Fire Riser
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $19,930
Deficiency Description: *Air compressor is approaching the end of its expected useful life.*
Description of Work: *Provide equipment replacement and installation.*
Comments:

Record ID: 650
System: D3030 - COOLING SYSTEMS
Item No.: D3030.70.014
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $25,420
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*
Description of Work: *Provide equipment replacement and installation.*
Comments: *Serves Fitness Room.*

Record ID: 652
System: D3060 - VENTILATION
Item No.: D3060.30.002
Floor/Room: 1st Floor / Shop
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*
Description of Work: *Provide equipment replacement and installation.*
Comments:

Fire Station 3

Record ID: 653
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Clean Shop
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 654
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / App Bay Restroom
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 659
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Janitor
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 3

Record ID: 660
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.007
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $14,240
Deficiency Description: *Split system with furnace heating and (3-ton) outdoor condensing unit is approaching the end of its expected useful life.*
Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 661
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.006
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $12,190
Deficiency Description: *Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.*
Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 662
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.014
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $25,420
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*
Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 3

Record ID: 663
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.014
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $25,420
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 664
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.014
Floor/Room: Site / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $25,420
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 665
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.014
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $25,420
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 3

Record ID: 666
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.014
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $25,420
Deficiency Description: *Split ductless AC unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 667
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.006
Floor/Room: 1st Floor / Separate Apparatus
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $1,690
Deficiency Description: *Instantaneous water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments: *Shop Building*

Record ID: 676
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Laundry
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 3

Record ID: 677
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Public Restroom
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 678
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.006
Floor/Room: Site / Site
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $12,190
Deficiency Description: *Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 680
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Restroom 2
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 3

Record ID: 681
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Restroom 1
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 739
System: D5040 - LIGHTING

Item No.: D5040.10.002
Floor/Room: 1st / Electrical
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 8,500/SF
Total Deficiency Cost: $37,510
Deficiency Description: *The low voltage lighting relays and switches are approaching the end of their expected useful life.*

Description of Work: *Replace the existing switches and provide a new lighting control system.*

Comments:

Record ID: 740
System: G2020 - PARKING LOTS

Item No.: G2020.70.014
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $1,110
Deficiency Description: *Existing lighting pole shows wear and should be retrofitted to be an LED fixture.*

Description of Work: *Retrofit the lighting pole with an LED fixture, clean and repaint pole.*

Comments:

Fire Station 3

Record ID: 741
System: D5040 - LIGHTING

Item No.: D5040.50.003
Floor/Room: 1st / Fire sprinkler Room
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $1,220
Deficiency Description: *Light fixture and motion sensor are damaged.*

Description of Work: *Replace the existing interior light fixture and sensore with new.*

Comments:

Record ID: 743
System: G2080 - LANDSCAPING

Item No.: G2080.30.007
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 75/SF
Total Deficiency Cost: $880
Deficiency Description: *Exterior dry-type transformer is in contact with landscaping.*

Description of Work: *Create a clear space around equipment.*

Comments:

Record ID: 744
System: D5010 - FACILITY POWER GENERATION

Item No.: D5010.30.003
Floor/Room: 1st / Electrical
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10,000/W
Total Deficiency Cost: $423,790
Deficiency Description: *The stand-alone photovoltaic power system is in need of being replaced.*

Description of Work: *Replace the existing stand-alone photovoltaic power system and replace it with a new one.*

Comments:

Fire Station 3

Record ID: 745
System: D7050 - DETECTION AND ALARM

Item No.: D7050.10.022
Floor/Room: 1st / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 8,500/SF
Total Deficiency Cost: $205,790
Deficiency Description: *The building existing fire alarm system is at the end of its industry rated useful life.*

Description of Work: *Provide a fully addressable fire alarm control panel with associated initiating and signaling devices.*

Comments:

Record ID: 748
System: D5040 - LIGHTING

Item No.: D5040.50.009
Floor/Room: 1st Floor / Various
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 8,500/SF
Total Deficiency Cost: $562,860
Deficiency Description: *Interior lighting systems are at or are approaching the end of their expected useful lives.*

Description of Work: *Replace the existing interior lighting systems and associated wiring devices, switches and controls.*

Comments:

Record ID: 754
System: D5010 - FACILITY POWER GENERATION

Item No.: D5010.10.003
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $143,780
Deficiency Description: *The fire statiion is served by a generator on the adjacent property that serves other buildings and is nearing the end its expected useful life.*

Description of Work: *Provide a new 100KW generator on the fire station dedicated to the facility.*

Comments:

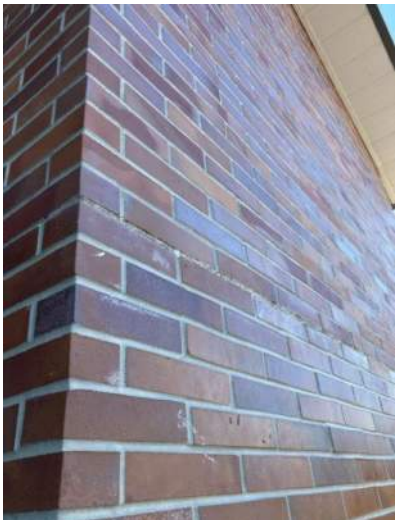
Fire Station 3

Record ID: 875
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: 1st Floor / Site
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 400/LF
Total Deficiency Cost: $23,030
Deficiency Description: *Cracking in sealant in horizontal brick joint was observed.*

Description of Work: *Replace sealant in control joint.*

Comments: *Failing sealant at brick at ledger angle.*



Record ID: 877
System: B3040 - TRAFFIC BEARING HORIZONTAL ENCLOSURES

Item No.: B3040.50.001
Floor/Room: Roof / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 20/SF
Total Deficiency Cost: $1,140
Deficiency Description: *Rooftop walk pads are loose.*

Description of Work: *Reattach walk pads on roofing membrane.*

Comments:

Record ID: 878
System: B3010 - ROOFING

Item No.: B3010.50.002
Floor/Room: Roof / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 300/SF
Total Deficiency Cost: $13,240
Deficiency Description: *Single-ply roofing is approaching the end of its useful life.*

Description of Work: *Remove and replace single-ply roofing.*

Comments:

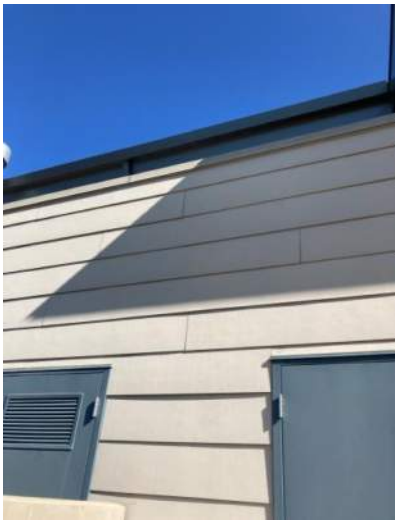
Fire Station 3

Record ID: 879
System: B2010 - EXTERIOR WALLS

Item No.: B2010.20.007
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 400/LF
Total Deficiency Cost: $23,030
Deficiency Description: *Exterior cement fiber board vertical joints are failing.*

Description of Work: *Replace sealant in board joints.*

Comments:

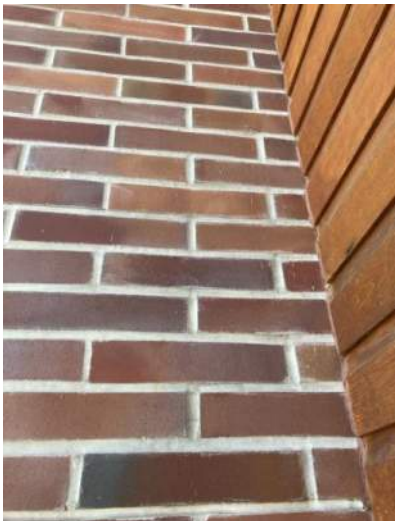


Record ID: 880
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $570
Deficiency Description: *Cracking in mortar joint across wall was observed.*

Description of Work: *Repair brick masonry.*

Comments:



Record ID: 881
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/LF
Total Deficiency Cost: $2,880
Deficiency Description: *Brick masonry is damaged.*

Description of Work: *Repair brick masonry.*

Comments: *Cracking brick masonry around windows on South façade.*

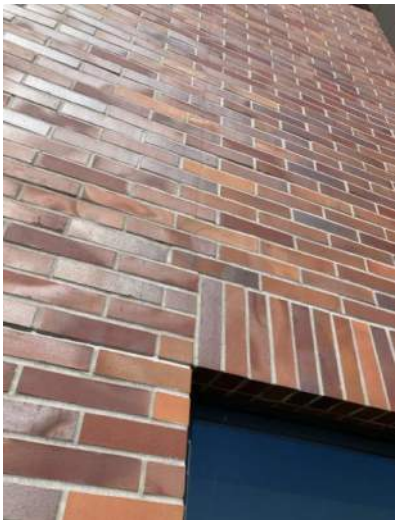
Fire Station 3

Record ID: 882
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/LF
Total Deficiency Cost: $2,880
Deficiency Description: *Significant vertical cracking of brick veneer was observed.*

Description of Work: *Repair brick masonry.*

Comments: *Located on rear (NE) elevation*



Record ID: 883
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/LF
Total Deficiency Cost: $2,880
Deficiency Description: *Significant vertical cracking of brick veneer was observed.*

Description of Work: *Repair brick masonry.*

Comments: *Located on rear (NE) elevation by the window; runs down both sides from attic vent.*

Record ID: 885
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.006
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 16/LF
Total Deficiency Cost: $600
Deficiency Description: *Trim is worn and should be replaced.*

Description of Work: *Replace trim and finish to match.*

Comments:

Fire Station 3

Record ID: 886
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.008
Floor/Room: 1st Floor / Laundry
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $1,140
Deficiency Description: *Interior wood door is in visual need of refurbishment.*

Description of Work: *Refurbish and restain the wood door.*

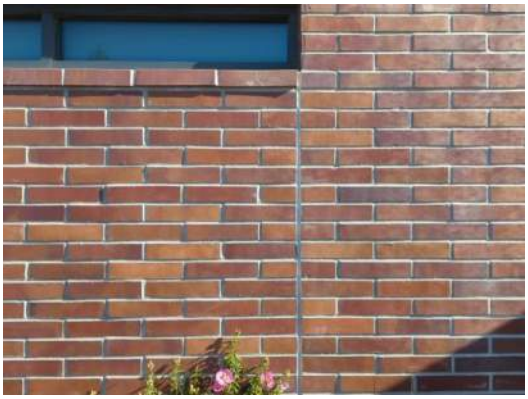
Comments:

Record ID: 919
System: B3010 - ROOFING

Item No.: B3010.90.002
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 14/LF
Total Deficiency Cost: $1,240
Deficiency Description: *Elastomeric sealant at expansion joint is failing.*

Description of Work: *Replace sealant at expansion joints.*

Comments:



Record ID: 920
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $530
Deficiency Description: *Hairline fractures on brick were observed.*

Description of Work: *Repair brick masonry.*

Comments: *Located on the SW corner.*

Fire Station 3

Record ID: 921
System: G2030 - PEDESTRIAN PLAZAS AND WALKWAYS
Item No.: G2030.20.002
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 16/LF
Total Deficiency Cost: $220
Deficiency Description: *Sealant failure on wall intersection was observed.*
Description of Work: *Remove/replace sealant at joint.*
Comments: *Located above south low roof.*

Record ID: 922
System: B2050 - EXTERIOR DOORS AND GRILLES
Item No.: B2050.90.010
Floor/Room: 1st Floor / Lobby
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $1,160
Deficiency Description: *Entrance door astragal is missing.*
Description of Work: *Install missing astragal.*
Comments:

Record ID: 923
System: B2020 - EXTERIOR WINDOWS
Item No.: B2020.20.010
Floor/Room: Exterior / Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 16/LF
Total Deficiency Cost: $480
Deficiency Description: *Metal clad window gasket are failing.*
Description of Work: *Replace window gaskets.*
Comments: *Windows located on south and east wall.*

Fire Station 3

Record ID: 924
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.004
Floor/Room: Exterior / Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 20/LF
Total Deficiency Cost: $1,100
Deficiency Description: *Soldier brick outside corner is damaged.*

Description of Work: *Repair brick masonry.*

Comments: *Approximately 4 locations affected.*

Record ID: 925
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.009
Floor/Room: Exterior / Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 40/LF
Total Deficiency Cost: $3,670
Deficiency Description: *Sealant around sunshades are failing.*

Description of Work: *Replace sealant.*

Comments: *Sealant around sunshade anchor plates to bick has failed.*

Record ID: 926
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.011
Floor/Room: Exterior / Exterior
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $860
Deficiency Description: *South window gaskets failing.*

Description of Work: *Remove and replace failed window gaskets.*

Comments:

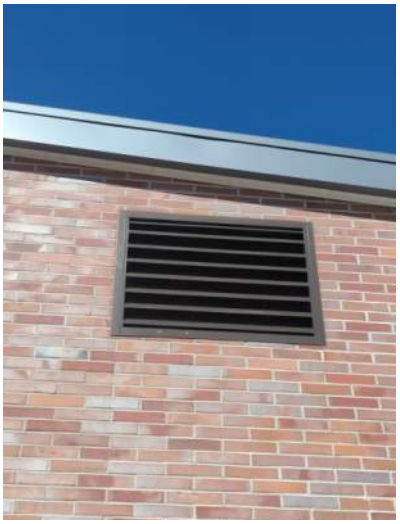
Fire Station 3

Record ID: 927
System: B2070 - EXTERIOR LOUVERS AND VENTS

Item No.: B2070.10.003
Floor/Room: Exterior / Exterior
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/SF
Total Deficiency Cost: $200
Deficiency Description: *Pre finished air intake louver finish failing.*

Description of Work: *Clean and repaint louvers as required.*

Comments:



Record ID: 928
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.011
Floor/Room: 1st Floor / Kitchen
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 20/EA
Total Deficiency Cost: $19,180
Deficiency Description: *The existing casework is in need of refurbishment.*

Description of Work: *Repair, refurbish, and refinish the existing wood casework and counters.*

Comments:

Record ID: 929
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.003
Floor/Room: Exterior / Exterior
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $570
Deficiency Description: *Metal door is showing signs of wear.*

Description of Work: *Refinish metal door.*

Comments:

Fire Station 3

Record ID: 930
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.003
Floor/Room: 1st Floor / Hallway
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $1,140
Deficiency Description: *Metal door is showing signs of wear.*

Description of Work: *Refinish metal door.*

Comments:

Fire Station 7
Detailed Report
Address: 6554 Mirabel Road, Forestville, CA 95436

Statistics

Year Built (approximate):	1970
Total Building Area:	13,500 SF

FCA Summary

Capital Renewal Cost:	**$2,661,592**
FCI:	0.132
Condition Score:	C
Condition Rating:	Poor
Replacement Cost:	$20,159,000
Replacement Cost/SF:	$1,493

Narratives

Architectural Systems

Sonoma County Fire District Station 7 is located at 6554 Mirabel Road in Forestville, California. The 9,650-square-foot, single-story station was constructed around 1970, with a separate 1,000-square-foot, manufactured modular building for training purposes installed in approximately 2011. The modular training building is in poor condition and beyond its useful life. Replacement of the building is recommended. Other accessory structures include a 1,500-square-foot shop, a 1,200-square-foot boat storage shed, and a 150-square-foot generator shed. Interior spaces consist of a three-bay apparatus bay, three dormitories, a kitchen, day room, offices, and a meeting/training room.

The primary structure of the Fire Station is post and beam with wood framed infill walls and roofing. Exterior finishes consist of concrete masonry, cement board, asphalt shingle roofing, and single-ply EPDM membrane roofing with elastomeric coating. The exterior windows consist of original, single-glazed aluminum frame in the offices, and anodized aluminum frames with insulated glazing in all other areas. Insulated aluminum sectional doors are installed in the three apparatus bays, while exterior doors are constructed of wood. The original single-glazed aluminum windows have exceeded their useful life, as have the exterior wood doors.

The asphalt shingle roofing is in poor condition and is recommended for replacement within five years. The single-ply EPDM roofing has failed in numerous places and also requires replacement. The upper roof drains need cleaning as buildup of debris around the mechanical units was observed, indicating ponding. The skylights are at the end of their useful life, necessitating replacement. Overall, the exterior finishes are in fair condition.

The interior finishes consist of clear-finished ground concrete throughout, with carpet in the offices and ceramic tile in the bathrooms. Other finishes include painted gypsum wallboard and wood doors, and new kitchen cabinets installed in 2023. The clear-finished concrete slab in the hallway, near the day room, and in the dormitory rooms are showing signs of excessive cracking, necessitating repair and further investigation to determine the cause of damage. Overall, the interior finishes are in fair condition.

Mechanical Systems

Mechanical Systems

The mechanical system at Fire Station 7 is serviced by one split system that serves the administrative spaces, living quarters, and fire department spaces in the main building. One split system with heat pumps serves the training modular building. Two gas unit heaters serve the apparatus bay and the separate storage/shop building. A rooftop exhaust fan, a rooftop ventilator, and ceiling exhaust fans serves the building. A Magnegrip system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has two shop air compressors and an air/oxygen containment fill station. The split system air conditioning units, ductless split system air conditioning units, rooftop exhaust fan, ceiling exhaust fan, a gas unit heater and the Magnegrip exhaust removal system are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that the shop building is being used as storage, and if the area is to be used as a shop, conversions will need to be made.

Plumbing Systems

The plumbing systems at Fire Station 7 are serviced by domestic cold and hot water, sanitary waste, gas, and vent piping. The domestic hot water heater is serviced by a gas water heater serving the main fire station. An electric water heater serves the Training Building. Flush tank water closets, lavatories, kitchen sinks, and showers were observed at the main fire station building. A sink was observed at the Training Building. The gas water heaters serving the main fire station building are recommended for replacement within a 10-year period.

Fire Protection Systems

The building is not fire sprinklered. Portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

Electrical Systems

Power Distribution

Electrical service to Fire Station 7 is delivered underground from PG&E and terminates in an outdoor meter that supplies an adjacent main disconnect switch. The main disconnect is rated for 400A, 120/240V, single phase. The meter and switch appear original to the building and the enclosures were weathered.

Adjacent to the main disconnect switch is a 400A, ASCO type Automatic Transfer Switch (ATS). The enclosure is made of galvanized steel and showed signs of rust at the hinges and along edges where the galvanizing is weaker. The output of the generator also connects to this switch. The load side of the ATS supplies power to the entire fire station.

The interior of Fire Station 7 has two surface mounted panelboards in the apparatus bay, L1 and L2 which are next to each other. The panelboards are GE A-Series II panels and appeared to be installed recently. The panels were in good condition and enclosures were clean and unblemished.

There is a subpanel in the training room modular building supplied from the main. The subpanel is a small load center and appeared original to the training room building.

The storage building also contains a panel that appeared original to the building. The panel was blocked by heavy storage items and could not be accessed.

The original exterior equipment is at the end of its useful life and has been exposed to the elements for decades. They are recommended to be replaced. The interior panels should have many years of useful life remaining.

Standby Power

Fire Station 7 has a standby generator on a concrete pad on the station's exterior near the storage building. Installed in 2004, as noted on the equipment the nameplate, the generator is housed in an integral weather resistant housing. The generator is manufactured by Caterpillar, is rated for 100KW, 240V, single-phase, and appeared to be in fair condition. The generator control panel did have a warning condition that was communicated to the Owner. The enclosure had some signs of rust and one of the housing panels was bent. There was also some dirt built up on the engine. The control panel indicated 695 hours of runtime. The generator is supplied with diesel fuel from a subbase fuel tank.

Based on age, the equipment is nearing the end of its expected useful life. The ASCO ATS switch looked to be the same age as the generator.

Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. Neither of these were present.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contained basic single-lamp pendant mounted strip fixtures. The remaining interior areas typically contained recessed 2'x4' parabolic style fluorescent fixtures. Several of these fixtures have been re-lamped to LED 4-foot retrofit tubes.

There are several downlights that appear original to the building. These have screw in type LED lamps to replace their original incandescent type. There were no illuminated exit signs. The training building had a T-bar ceiling with 2'x4' recessed fluorescent fixtures with acrylic diffusers. The storage building had pendant mounted 2'x4' high bay LED fixtures. Lighting toggle switches are used for control.

The interior lighting is past the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixtures with a pure LED based type.

There is limited exterior lighting and no light poles. Fluorescent strip fixtures are present under the patio of the fire station. There are also a few wall-mounted fixtures around the perimeter of the fire station. It is recommended that these fixtures with replaced with LED type. New lighting controls should be provided as well to comply with current energy code requirements.

Fire Alarm Systems

The station does not have a fire alarm panel. There are ceiling mounted smoke detectors that appeared to be battery powered, residential style, single station type.

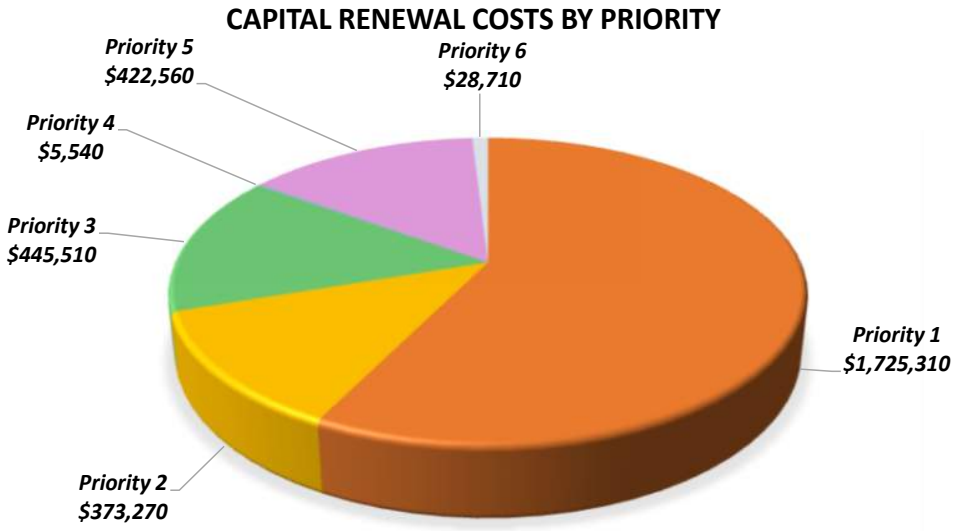
Installation of a new hardwired fire alarm system with full notification provided throughout the station is recommended. This would also allow for the fire alarm system to be remotely monitored.

Conclusion

For Fire Station 7, this chart summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart summarizes all of the more detailed information from the subsequent Deficiency Table. To supplement the Deficiency Table, representative photographs and descriptions are included.

Fire Station 7							
Capital Renewal Costs by Priority							
Building	**Priority 1** 8% Escalation	**Priority 2** 13% Escalation	**Priority 3** 18% Escalation	**Priority 4** 23% Escalation	**Priority 5** 28% Escalation	**Priority 6** 33% Escalation	**Total**
Fire Station 7	$1,725,310	$373,270	$445,510	$5,540	$422,560	$28,710	**$3,000,900**
Total	**$1,725,310**	**$373,270**	**$445,510**	**$5,540**	**$422,560**	**$28,710**	**$3,000,900**
	57.49%	12.44%	14.85%	0.18%	14.08%	0.96%	**100.00%**



Fire Station 7

Capital Renewal Cost:	**$2,661,592**	FCI:	**0.132**
Replacement Cost:	**$20,159,000**	Condition Score:	**C**
Replacement Cost/SF:	**$1,493**	Condition Rating:	**POOR**

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	**$1,467**	-	-	-	-	$1,880	-
B2010	EXTERIOR WALLS	**$891**	-	$1,010	-	-	-	-
B2020	EXTERIOR WINDOWS	**$179,203**	-	-	$46,920	-	$178,490	-
B2050	EXTERIOR DOORS AND GRILLES	**$23,651**	-	-	$27,910	-	-	-
B3010	ROOFING	**$335,096**	-	$316,860	$830	-	$69,100	-
B3060	HORIZONTAL OPENINGS	**$14,405**	-	$16,280	-	-	-	-
C1030	INTERIOR DOORS	**$30,906**	-	-	$31,150	$5,540	-	-
C2010	WALL FINISHES	**$602**	-	-	$710	-	-	-
D2010	DOMESTIC WATER DISTRIBUTION	**$12,362**	-	$13,970	-	-	-	-
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	**$5,998**	$6,480	-	-	-	-	-
D2060	PROCESS SUPPORT PLUMBING SYSTEMS	**$14,982**	-	-	-	-	-	$19,930
D3020	HEATING SYSTEMS	**$11,131**	-	-	$13,140	-	-	-
D3030	COOLING SYSTEMS	**$21,582**	-	$24,380	-	-	-	-
D3060	VENTILATION	**$283,996**	-	-	$324,850	-	$2,680	$8,780
D5010	FACILITY POWER GENERATION	**$159,952**	$28,970	-	-	-	$170,410	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	**$45,940**	$49,610	-	-	-	-	-
D5030	GENERAL PURPOSE ELECTRICAL POWER	**$340**	$370	-	-	-	-	-
D5040	LIGHTING	**$503,508**	$543,050	$770	-	-	-	-
D7050	DETECTION AND ALARM	**$198,637**	$214,530	-	-	-	-	-

Fire Station 7

Capital Renewal Cost:	**$2,661,592**	FCI:	**0.132**
Replacement Cost:	**$20,159,000**	Condition Score:	**C**
Replacement Cost/SF:	**$1,493**	Condition Rating:	**POOR**

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)
F1020	SPECIAL STRUCTURES	**$816,943**	$882,300	-	-	-	-	-
TOTALS		**$2,661,592**	**$1,725,310**	**$373,270**	**$445,510**	**$5,540**	**$422,560**	**$28,710**
TOTAL (Priority 1-6 without escalation)		**$2,661,592**	**$3,000,900**					
			TOTAL (Priority 1-6 with escalation)					

Fire Station 7

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
Non Construction Cost [1.3] = Includes Architect/Engineer Fees, Construction Management, Client Administration, Permits, Testing, etc.
Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
896	D2030 - BUILDING SUPPORT PLUMBING SYSTEMS	D2030.30.001	Roof / Upper Roof	Roof drains are damaged and clogged.	Repair or replace roof drains and provide cleaning.	2	EA	$2,290	$6,480	1
759	D5010 - FACILITY POWER GENERATION	D5010.70.007	1st Floor / Exterior	The 400A 2-pole automatic transfer switch (ATS) is approaching the end of its expected useful life.	Replace the existing ATS with new.	1	EA	$10,240	$28,970	1
760	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.10.003	1st / Exterior	The 400A (120/240V, 1P) all-in-one combination service entrance device is approaching the end of its expected useful life.	Replace the existing all-in-one combination service entrance device with a new all-in-one combination service entrance device.	1	EA	$15,800	$44,690	1
765	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.4001	1st Floor / -	The 100A (18 ckts, 20A plug-in breakers, 1P) load center is approaching the end of its expected useful life.	Replace the existing load center with a new load center.	1	EA	$1,740	$4,920	1
761	D5030 - GENERAL PURPOSE ELECTRICAL POWER	D5030.50.040	Site / -	Wiring device (outlet box, junction box, receptacle, etc.) needs to be secured to structure.	Secure the existing wiring device to the structure.	1	EA	$130	$370	1
770	D5040 - LIGHTING	D5040.50.003	Site / -	1'W x 4'L two 40 watt surface mounted interior light fixture is damaged and should be replaced.	Replace the existing interior light fixture with a new interior light fixture.	8	EA	$1,730	$4,890	1
763	D5040 - LIGHTING	D5040.50.007	1st Floor / Vending	The recessed mounted downlight is damaged and should be replaced.	Replace the damaged recessed mounted downlight fixture with a new recessed mounted downlight fixture.	2	EA	$640	$1,810	1
767	D5040 - LIGHTING	D5040.50.009	1st / Various	Interior lighting systems are at or are approaching the end of their expected useful lives.	Replace the existing interior lighting systems and associated wiring devices, switches and controls.	9,600	SF	$189,610	$536,350	1
762	D7050 - DETECTION AND ALARM	D7050.10.023	1st / Various	The existing fire alarm system is non-addressable and is lacking devices.	Provide a complete, site-wide, fully addressable fire alarm system.	9,600	SF	$75,840	$214,530	1
978	F1020 - SPECIAL STRUCTURES	F1020.40.001	Site / -	Modular building is approaching the end of its useful life.	Replace modular building in kind.	1	LS	$311,910	$882,300	1
934	B2010 - EXTERIOR WALLS	B2010.10.006	1st Floor / Apparatus Bay Exterior	Trim is worn and should be replaced.	Replace trim and finish to match.	10	LF	$110	$330	2

Fire Station 7

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
Non Construction Cost [1.3] = Includes Architect/Engineer Fees, Construction Management, Client Administration, Permits, Testing, etc.
Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
932	B2010 - EXTERIOR WALLS	B2010.10.006	1st Floor / Exterior	Trim is showing signs of wood rot.	Replace trim and finish to match.	20	LF	$230	$680	2
940	B3010 - ROOFING	B3010.50.002	Roof / -	EPDM roofing membrane is failing.	Remove roofing and replace with single-ply roofing.	8,000	SF	$105,340	$311,770	2
933	B3010 - ROOFING	B3010.90.001	Roof / Rear Porch	Roof flashing is missing.	Replace missing flashing.	30	LF	$1,720	$5,090	2
895	B3060 - HORIZONTAL OPENINGS	B3060.10.001	Roof / Upper Roof	Skylights are leaking, damaged and discolored.	Remove the existing skylight and replace it with a new skylight.	64	SF	$5,500	$16,280	2
701	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.002	1st Floor / Mechanical	Gas fired water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,720	$13,970	2
706	D3030 - COOLING SYSTEMS	D3030.70.006	Roof / -	Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,120	$12,190	2
705	D3030 - COOLING SYSTEMS	D3030.70.006	Roof / -	Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,120	$12,190	2
758	D5040 - LIGHTING	D5040.10.001	1st / Apparatus	The time clock is approaching the end of its expected useful life.	Replace the existing time clock with a new time clock.	1	EA	$260	$770	2
888	B2020 - EXTERIOR WINDOWS	B2020.10.012	1st Floor / Exterior	The existing screens are deteriorated.	Replace exterior window screens.	100	SF	$11,450	$35,390	3
892	B2020 - EXTERIOR WINDOWS	B2020.20.003	1st Floor / Lobby	Metal window is approaching the end of its useful life.	Replace metal window.	21	SF	$3,730	$11,530	3
937	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.006	1st Floor / Lobby	Exterior wood entrance door, frame and hardware is approaching the end of its useful life.	Replace with steel door, frame, and hardware.	1	EA	$2,510	$7,760	3
941	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.006	1st Floor / Cooridor	Exterior wood entrance door, frame and hardware is approaching the end of its useful life.	Replace with steel door, frame, and hardware.	1	EA	$2,510	$7,760	3
931	B2050 - EXTERIOR DOORS AND GRILLES	B2050.20.003	1st Floor / Exterior	Exterior doors, frames and hardware are approaching the end of their useful life.	Replace the exterior doors, frames and hardware.	1	EA	$4,010	$12,390	3
935	B3010 - ROOFING	B3010.90.010	Roof / Exterior	The fascia is deteriorated.	Selectively remove deteriorated fascia and replace with new material to match.	24	LF	$270	$830	3

Fire Station 7

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
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Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
893	C1030 - INTERIOR DOORS	C1030.10.001	1st Floor / Radio Room	Interior wood door is at or approaching the end of its useful life.	Replace with new wood door.	4	EA	$10,080	$31,150	3
936	C2010 - WALL FINISHES	C2010.70.001	1st Floor / Apparatus Bay	Painted gypsum wallboard is showing signs of wear.	Patch and paint the gypsum wallboard.	32	SF	$230	$710	3
690	D3020 - HEATING SYSTEMS	D3020.70.003	1st Floor / Apparatus	Gas fired unit heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,250	$13,140	3
704	D3060 - VENTILATION	D3060.30.033	1st Floor / Apparatus	Vehicle exhaust extraction system is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$105,110	$324,850	3
938	C1030 - INTERIOR DOORS	C1030.10.008	1st Floor / -	Interior wood doors in wood frames are visually in need of refurbishment.	Refurbish and restain the wood door.	5	EA	$1,720	$5,540	4
897	A4010 - STANDARD SLABS-ON-GRADE	A4010.10.001	1st Floor / Hallway	Excessive cracks were detected in the floor slab-on-grade.	Fill the slab-on-grade cracks with sealant.	50	LF	$400	$1,340	5
894	A4010 - STANDARD SLABS-ON-GRADE	A4010.10.001	1st Floor / Hallway	Excessive cracks were detected in the floor slab-on-grade.	Fill the slab-on-grade cracks with caulking.	20	LF	$160	$540	5
887	B2020 - EXTERIOR WINDOWS	B2020.20.003	1st Floor / Exterior	Metal window is approaching the end of its useful life.	Replace metal window.	300	SF	$53,240	$178,490	5
939	B3010 - ROOFING	B3010.10.001	Roof / -	Asphalt composition roof is showing signs of wear.	Remove and replace asphalt composition shingle roofing.	1,200	SF	$20,610	$69,100	5
710	D3060 - VENTILATION	D3060.30.002	1st Floor / Restroom 2	Ceiling exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$800	$2,680	5
773	D5010 - FACILITY POWER GENERATION	D5010.10.003	Site / -	The 100kW Diesel engine (including battery, charger, muffler, day tank) is at or is approaching end of its expected useful life.	Replace the existing generator with an appropriately sized new generator.	1	EA	$50,830	$170,410	5
694	D2060 - PROCESS SUPPORT PLUMBING SYSTEMS	D2060.10.001	1st Floor / Storage Building	Air compressor is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$5,720	$19,930	6
708	D3060 - VENTILATION	D3060.30.005	Roof / -	Roof exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$2,520	$8,780	6

Fire Station 7

Record ID: 690
System: D3020 - HEATING SYSTEMS

Item No.: D3020.70.003
Floor/Room: 1st Floor / Apparatus
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $13,140
Deficiency Description: *Gas fired unit heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 694
System: D2060 - PROCESS SUPPORT PLUMBING SYSTEMS

Item No.: D2060.10.001
Floor/Room: 1st Floor / Storage Building
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $19,930
Deficiency Description: *Air compressor is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments: *Storage Building*

Record ID: 701
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.002
Floor/Room: 1st Floor / Mechanical
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $13,970
Deficiency Description: *Gas fired water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 7

Record ID: 704
System: D3060 - VENTILATION

Item No.: D3060.30.033
Floor/Room: 1st Floor / Apparatus
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $324,850
Deficiency Description: *Vehicle exhaust extraction system is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments: *3 Bay*

Record ID: 705
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.006
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $12,190
Deficiency Description: *Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 706
System: D3030 - COOLING SYSTEMS

Item No.: D3030.70.006
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $12,190
Deficiency Description: *Split system with furnace heating and (2-ton) outdoor condensing unit is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 7

Record ID: 708
System: D3060 - VENTILATION

Item No.: D3060.30.005
Floor/Room: Roof / -
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $8,780
Deficiency Description: *Roof exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 710
System: D3060 - VENTILATION

Item No.: D3060.30.002
Floor/Room: 1st Floor / Restroom 2
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $2,680
Deficiency Description: *Ceiling exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 758
System: D5040 - LIGHTING

Item No.: D5040.10.001
Floor/Room: 1st / Apparatus
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $770
Deficiency Description: *The time clock is approaching the end of its expected useful life.*

Description of Work: *Replace the existing time clock with a new time clock.*

Comments:

Fire Station 7

Record ID: 759
System: D5010 - FACILITY POWER GENERATION
Item No.: D5010.70.007
Floor/Room: 1st Floor / Exterior
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $28,970
Deficiency Description: *The 400A 2-pole automatic transfer switch (ATS) is approaching the end of its expected useful life.*
Description of Work: *Replace the existing ATS with new.*
Comments: *Rust at hinges.*

Record ID: 760
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.10.003
Floor/Room: 1st / Exterior
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $44,690
Deficiency Description: *The 400A (120/240V, 1P) all-in-one combination service entrance device is approaching the end of its expected useful life.*
Description of Work: *Replace the existing all-in-one combination service entrance device with a new all-in-one combination service entrance device.*
Comments:

Record ID: 761
System: D5030 - GENERAL PURPOSE ELECTRICAL POWER
Item No.: D5030.50.040
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $370
Deficiency Description: *Wiring device (outlet box, junction box, receptacle, etc.) needs to be secured to structure.*
Description of Work: *Secure the existing wiring device to the structure.*
Comments:

Fire Station 7

Record ID: 762
System: D7050 - DETECTION AND ALARM

Item No.: D7050.10.023
Floor/Room: 1st / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 9,600/SF
Total Deficiency Cost: $214,530
Deficiency Description: *The existing fire alarm system is non-addressable and is lacking devices.*

Description of Work: *Provide a complete, site-wide, fully addressable fire alarm system.*

Comments:

Record ID: 763
System: D5040 - LIGHTING

Item No.: D5040.50.007
Floor/Room: 1st Floor / Vending
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $1,810
Deficiency Description: *The recessed mounted downlight is damaged and should be replaced.*

Description of Work: *Replace the damaged recessed mounted downlight fixture with a new recessed mounted downlight fixture.*

Comments: *Housing missing.*

Record ID: 765
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION

Item No.: D5020.30.4001
Floor/Room: 1st Floor / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $4,920
Deficiency Description: *The 100A (18 ckts, 20A plug-in breakers, 1P) load center is approaching the end of its expected useful life.*

Description of Work: *Replace the existing load center with a new load center.*

Comments:

Fire Station 7

Record ID: 767
System: D5040 - LIGHTING

Item No.: D5040.50.009
Floor/Room: 1st / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 9,600/SF
Total Deficiency Cost: $536,350
Deficiency Description: *Interior lighting systems are at or are approaching the end of their expected useful lives.*

Description of Work: *Replace the existing interior lighting systems and associated wiring devices, switches and controls.*

Comments:

Record ID: 770
System: D5040 - LIGHTING

Item No.: D5040.50.003
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 8/EA
Total Deficiency Cost: $4,890
Deficiency Description: *1'W x 4'L two 40 watt surface mounted interior light fixture is damaged and should be replaced.*

Description of Work: *Replace the existing interior light fixture with a new interior light fixture.*

Comments:

Record ID: 773
System: D5010 - FACILITY POWER GENERATION

Item No.: D5010.10.003
Floor/Room: Site / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $170,410
Deficiency Description: *The 100kW Diesel engine (including battery, charger, muffler, day tank) is at or is approaching end of its expected useful life.*

Description of Work: *Replace the existing generator with an appropriately sized new generator.*

Comments:

Fire Station 7

Record ID: 887
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.003
Floor/Room: 1st Floor / Exterior
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 300/SF
Total Deficiency Cost: $178,490
Deficiency Description: *Metal window is approaching the end of its useful life.*

Description of Work: *Replace metal window.*

Comments:

Record ID: 888
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.10.012
Floor/Room: 1st Floor / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 100/SF
Total Deficiency Cost: $35,390
Deficiency Description: *The existing screens are deteriorated.*

Description of Work: *Replace exterior window screens.*

Comments:

Record ID: 892
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.003
Floor/Room: 1st Floor / Lobby
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 21/SF
Total Deficiency Cost: $11,530
Deficiency Description: *Metal window is approaching the end of its useful life.*

Description of Work: *Replace metal window.*

Comments:

Fire Station 7

Record ID: 893
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.001
Floor/Room: 1st Floor / Radio Room
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 4/EA
Total Deficiency Cost: $31,150
Deficiency Description: *Interior wood door is at or approaching the end of its useful life.*

Description of Work: *Replace with new wood door.*

Comments:

Record ID: 894
System: A4010 - STANDARD SLABS-ON-GRADE

Item No.: A4010.10.001
Floor/Room: 1st Floor / Hallway
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 20/LF
Total Deficiency Cost: $540
Deficiency Description: *Excessive cracks were detected in the floor slab-on-grade.*

Description of Work: *Fill the slab-on-grade cracks with caulking.*

Comments: *Further investigation is recommended to determine the source of cracking.*

Record ID: 895
System: B3060 - HORIZONTAL OPENINGS

Item No.: B3060.10.001
Floor/Room: Roof / Upper Roof
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 64/SF
Total Deficiency Cost: $16,280
Deficiency Description: *Skylights are leaking, damaged and discolored.*

Description of Work: *Remove the existing skylight and replace it with a new skylight.*

Comments: *At four skylights.*

Fire Station 7

Record ID: 896
System: D2030 - BUILDING SUPPORT PLUMBING SYSTEMS
Item No.: D2030.30.001
Floor/Room: Roof / Upper Roof
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $6,480
Deficiency Description: *Roof drains are damaged and clogged.*
Description of Work: *Repair or replace roof drains and provide cleaning.*
Comments:

Record ID: 897
System: A4010 - STANDARD SLABS-ON-GRADE
Item No.: A4010.10.001
Floor/Room: 1st Floor / Hallway
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/LF
Total Deficiency Cost: $1,340
Deficiency Description: *Excessive cracks were detected in the floor slab-on-grade.*
Description of Work: *Fill the slab-on-grade cracks with sealant.*
Comments: *Further investigation is recommended to determine the source of cracking.*

Record ID: 931
System: B2050 - EXTERIOR DOORS AND GRILLES
Item No.: B2050.20.003
Floor/Room: 1st Floor / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $12,390
Deficiency Description: *Exterior doors, frames and hardware are approaching the end of their useful life.*
Description of Work: *Replace the exterior doors, frames and hardware.*
Comments:

Fire Station 7

Record ID: 932
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.006
Floor/Room: 1st Floor / Exterior
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 20/LF
Total Deficiency Cost: $680
Deficiency Description: *Trim is showing signs of wood rot.*

Description of Work: *Replace trim and finish to match.*

Comments:

Record ID: 933
System: B3010 - ROOFING

Item No.: B3010.90.001
Floor/Room: Roof / Rear Porch
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 30/LF
Total Deficiency Cost: $5,090
Deficiency Description: *Roof flashing is missing.*

Description of Work: *Replace missing flashing.*

Comments:

Record ID: 934
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.006
Floor/Room: 1st Floor / Apparatus Bay Exterior
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $330
Deficiency Description: *Trim is worn and should be replaced.*

Description of Work: *Replace trim and finish to match.*

Comments: *At northwest corner.*

Fire Station 7

Record ID: 935
System: B3010 - ROOFING

Item No.: B3010.90.010
Floor/Room: Roof / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 24/LF
Total Deficiency Cost: $830
Deficiency Description: *The fascia is deteriorated.*

Description of Work: *Selectively remove deteriorated fascia and replace with new material to match.*

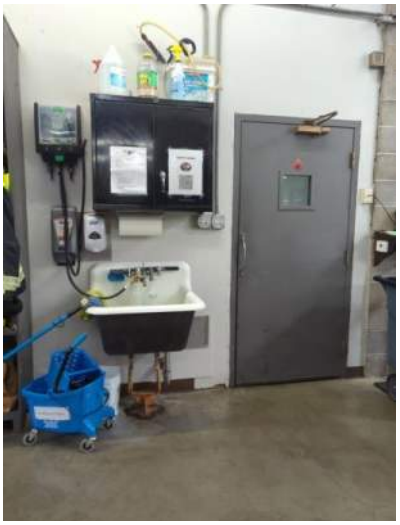
Comments: *North side of building.*

Record ID: 936
System: C2010 - WALL FINISHES

Item No.: C2010.70.001
Floor/Room: 1st Floor / Apparatus Bay
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 32/SF
Total Deficiency Cost: $710
Deficiency Description: *Painted gypsum wallboard is showing signs of wear.*

Description of Work: *Patch and paint the gypsum wallboard.*

Comments:



Record ID: 937
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.006
Floor/Room: 1st Floor / Lobby
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $7,760
Deficiency Description: *Exterior wood entrance door, frame and hardware is approaching the end of its useful life.*

Description of Work: *Replace with steel door, frame, and hardware.*

Comments:

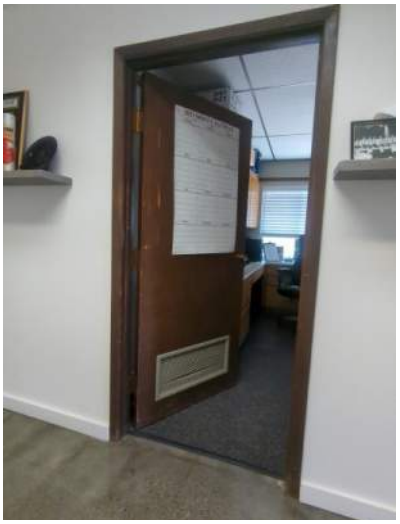
Fire Station 7

Record ID: 938
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.008
Floor/Room: 1st Floor / -
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 5/EA
Total Deficiency Cost: $5,540
Deficiency Description: *Interior wood doors in wood frames are visually in need of refurbishment.*

Description of Work: *Refurbish and restain the wood door.*

Comments:



Record ID: 939
System: B3010 - ROOFING

Item No.: B3010.10.001
Floor/Room: Roof / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1,200/SF
Total Deficiency Cost: $69,100
Deficiency Description: *Asphalt composition roof is showing signs of wear.*

Description of Work: *Remove and replace asphalt composition shingle roofing.*

Comments:

Record ID: 940
System: B3010 - ROOFING

Item No.: B3010.50.002
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 8,000/SF
Total Deficiency Cost: $311,770
Deficiency Description: *EPDM roofing membrane is failing.*

Description of Work: *Remove roofing and replace with single-ply roofing.*

Comments: *Existing EPDM roofing membrane with applied elastomeric coating is in failing condition.*

Fire Station 7

Record ID: 941
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.006
Floor/Room: 1st Floor / Cooridor
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $7,760
Deficiency Description: *Exterior wood entrance door, frame and hardware is approaching the end of its useful life.*

Description of Work: *Replace with steel door, frame, and hardware.*

Comments: *Steel door in wood frame. Interior grade door, typ.*

Record ID: 978
System: F1020 - SPECIAL STRUCTURES

Item No.: F1020.40.001
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/LS
Total Deficiency Cost: $882,300
Deficiency Description: *Modular building is approaching the end of its useful life.*

Description of Work: *Replace modular building in kind.*

Comments:

Fire Station 8
Detailed Report
Address: 6161 Bennett Valley Road, Santa Rosa, CA 95404

Statistics

Year Built (approximate):	1965
Total Building Area:	5,700 SF

FCA Summary

Capital Renewal Cost:	$772,679
FCI:	0.079
Condition Score:	B
Condition Rating:	Fair
Replacement Cost:	$9,834,000
Replacement Cost/SF:	$1,725

Narratives

Architectural Systems

Sonoma County Fire District Station 8 is located at 6161 Bennet Valley Road in Santa Rosa, California. The station was constructed in phases, beginning around 1965, and is located in the easterly rural part of the City of Santa Rosa. The site contains a 5,400-square-foot single-story fire station, a 150-square-foot generator shed and a 150-square-foot shop. Interior spaces include a four-door apparatus bay (one pull-through and two back-in apparatus bays), gym, day room, kitchen, dormitories, and offices.

The primary structure of the building consists of wood frame walls with glulam beams and wood decking. Exterior finishes consist of plywood panels walls, single-pane metal windows, standing-seam metal roofing over the apparatus bay, and single-ply roofing above the living quarters. Wood rot has been identified on the painted plywood sheathing at the base of the exterior walls, which requires replacement. Both the metal roof and the single-ply roofing, which were installed in 2017, are good condition, with no damage observed. Debris was observed along the edge of the single-ply roof, indicating ponding due to clogged roof drains. Overall, the exterior finishes are in fair condition.

The interior finishes consist of gypsum wallboard, composite wood flooring, sealed concrete slab in the apparatus bay, wood cabinets, and wood doors. The gypsum wallboard in the office, bathroom, and apparatus bay are in poor to fair condition and need repair. Similarly, interior wood doors and frames have exceeded their useful life, necessitating replacement. The kitchen cabinets were installed around 1990 and need replacement. Overall, the interior finishes are in fair condition.

Mechanical Systems

Mechanical Systems

The mechanical system at Fire Station 8 is serviced by a rooftop packaged air conditioning unit which services the administrative spaces, living quarters and fire department spaces. A gas unit heater serves the apparatus bay. Two rooftop exhaust fans, and a ceiling exhaust fan service the building. A Plymovent system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a shop air compressor and an air/oxygen containment fill station. The rooftop packaged air conditioning unit and the rooftop exhaust fans are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that due to natural gas present at the site, propane tanks are not needed at the barbeque stations.

Plumbing Systems

The plumbing systems at Fire Station 8 are serviced by domestic cold and hot water, sanitary waste, gas and vent piping. The building has a water treatment system consisting of a water softener unit and a UV water purification system. In addition, a reverse osmosis system was observed at the kitchen sink. The domestic hot water is serviced by a tankless gas water heater. Flush tank water closets, lavatories, urinals, kitchen sinks, and showers were observed. The tankless gas water heater is approaching the end of its useful life and is recommended for replacement within a 10-year period.

It was observed that small propane tanks are being used for the outdoor barbecue appliance. A new gas line should be plumbed for this equipment instead of the propane tank.

Fire Protection Systems

The building is not fire sprinklered. Portable fire extinguishers were observed throughout. No issues were noted with the fire protection system.

Electrical Systems

Power Distribution

Electrical service to Fire Station 8 is delivered overhead from PG&E and terminates in an outdoor combination meter that supplies an adjacent main enclosed circuit breaker. The main breaker is rated for 200A, 120/240V, single phase. The meter and main circuit breaker appear original to the 1960's building. The meter enclosure had signs of rust. The main circuit breaker is an obsolete Zinsco type with significant rust on its enclosure.

Adjacent to the meter and main circuit breaker is a shed that contains the station standby generator. Power from the meter is routed to an Automatic Transfer Switch (ATS) in this shed. The output of the generator also connects to this switch. The load side of the ATS supplies power to the entire fire station.

The interior of the fire station has a main panelboard recessed into the corridor wall that appears original to the building's construction. It is an obsolete Cutler Hammer NLAB model that is rated for 225A, 120/240V, single phase. The door of the panel was slightly askew due to a bad hinge and some screws were missing. The panel schedule was yellowed from age.

There is a subpanel in the apparatus bay that is supplied from the main. It is a small load center with no nameplate. The subpanel did have an open knockout on the side. There is a similar load center located on the exterior storage shed with some screws noted as missing during the assessment. Equipment labels on the indicating records of testing or preventative maintenance were not observed. Additionally, there were no arc flash warning labels installed.

The original electrical equipment is over 50 years old and past the end of its expected useful life. Due to age and apparent lack of maintenance, this equipment may not operate to protect the electrical system if needed.

Standby Power

The station has a standby generator within an exterior shed outside of the station. The generator is configured to provide power to the entire fire station upon loss of utility power. The generator is housed in an integral weather resistant housing.

Manufactured by NORPRO, the generator is rated for 30KW, 240V, single-phase and appeared to be in good condition. The belts and hoses were clean and no signs of rust or degradation on the equipment or housing were noted. The generator control panel showed no alarm or warning conditions. No history of issues with the generator operation was discovered. The generator is supplied with diesel fuel from a subbase fuel tank. The labeling indicated the equipment has been regularly maintained beginning in 2016, which we presume is the age of the unit.

Based on age and visual observation, the equipment should perform for many more years with adequate maintenance.

The ATS switch is by ASCO and looked to be the same age as the generator. Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. These were not present.

Electrical Systems (cont'd)

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp pendant mounted turret style strip fixtures. The remaining areas typically contain surface mounted 1'x4' wraparound fluorescent fixtures. Several of these fixtures have been re-lamped to LED 4-foot retrofit tubes.

There are several downlights that appear original to the building. These have screw in type LED lamps to replace their original incandescent type. No exit signs were observed. Lighting toggle switches are used for control.

The interior lighting is past the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixtures with a pure LED based type.

The exterior lighting consisted of wall-mounted fixtures around the perimeter of Fire Station 8. Some of these are modern LED fixtures that appeared to be in good condition with clear diffusers. There are some older jelly jar style fixtures with compact fluorescent lamps. These should be replaced with LED type.

New lighting controls should be provided along with fixture replacement to comply with current energy code requirements.

Fire Alarm Systems

Fire Station 8 does not have a fire alarm panel. There are ceiling mounted smoke detectors that appeared to be battery powered, residential style, single station type.

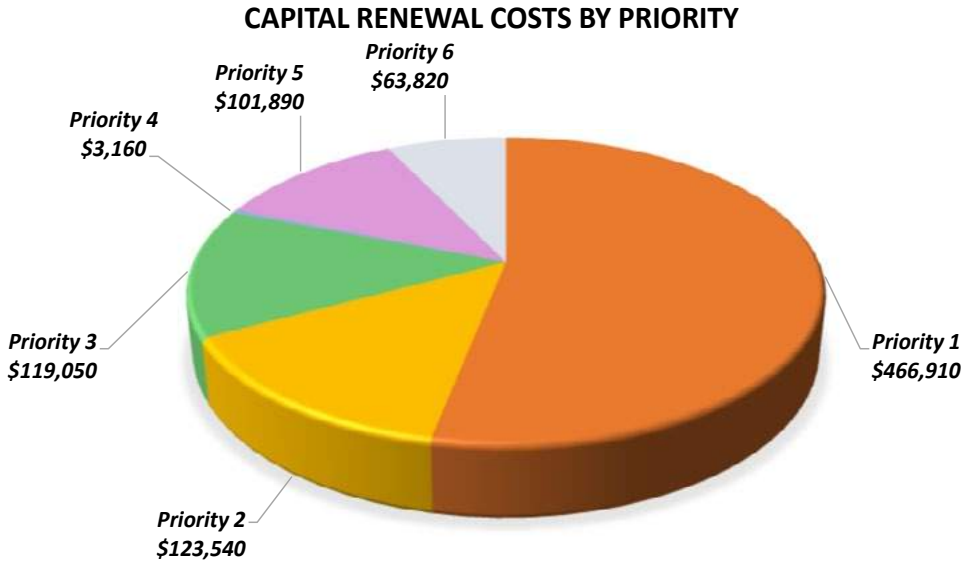
Installation of a new hardwired fire alarm system with full detection and notification devices provided throughout the station is recommended. A fire alarm panel would also allow for the fire alarm system to be remotely monitored for trouble and alarm conditions.

Conclusion

For Fire Station 8, this chart summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart summarizes all of the more detailed information from the subsequent Deficiency Table. To supplement the Deficiency Table, representative photographs and descriptions are included.

Fire Station 8							
Capital Renewal Costs by Priority							
Building	**Priority 1** 8% Escalation	**Priority 2** 13% Escalation	**Priority 3** 18% Escalation	**Priority 4** 23% Escalation	**Priority 5** 28% Escalation	**Priority 6** 33% Escalation	**Total**
Fire Station 8	$466,910	$123,540	$119,050	$3,160	$101,890	$63,820	**$878,370**
Total	**$466,910**	**$123,540**	**$119,050**	**$3,160**	**$101,890**	**$63,820**	**$878,370**
	53.16%	14.06%	13.55%	0.36%	11.60%	7.27%	**100.00%**



Fire Station 8

Capital Renewal Cost:	**$772,679**	FCI:	**0.079**
Replacement Cost:	**$9,834,000**	Condition Score:	**B**
Replacement Cost/SF:	**$1,725**	Condition Rating:	**FAIR**

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	**$340**	-	-	-	-	$440	-
B2010	EXTERIOR WALLS	**$314**	-	-	$340	$30	-	-
B2020	EXTERIOR WINDOWS	**$74,384**	-	-	-	-	$95,210	-
B2050	EXTERIOR DOORS AND GRILLES	**$4,505**	-	-	-	-	$5,770	-
C1010	INTERIOR PARTITIONS	**$157**	-	$180	-	-	-	-
C1030	INTERIOR DOORS	**$106,155**	-	$89,470	$31,830	-	-	-
C1090	INTERIOR SPECIALTIES	**$10,791**	-	$12,190	-	-	-	-
C2010	WALL FINISHES	**$6,286**	-	-	$4,420	$3,130	-	-
C2030	FLOORING	**$367**	-	-	-	-	$470	-
D2010	DOMESTIC WATER DISTRIBUTION	**$2,986**	-	-	-	-	-	$3,970
D2030	BUILDING SUPPORT PLUMBING SYSTEMS	**$5,998**	-	$6,780	-	-	-	-
D3030	COOLING SYSTEMS	**$44,997**	-	-	-	-	-	$59,850
D3060	VENTILATION	**$13,201**	-	$14,920	-	-	-	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	**$29,308**	$31,650	-	-	-	-	-
D5030	GENERAL PURPOSE ELECTRICAL POWER	**$157**	$170	-	-	-	-	-
D5040	LIGHTING	**$289,051**	$312,180	-	-	-	-	-
D7050	DETECTION AND ALARM	**$113,803**	$122,910	-	-	-	-	-
E2010	FIXED FURNISHINGS	**$69,879**	-	-	$82,460	-	-	-

Fire Station 8

Capital Renewal Cost:	**$772,679**	FCI:	**0.079**
Replacement Cost:	**$9,834,000**	Condition Score:	**B**
Replacement Cost/SF:	**$1,725**	Condition Rating:	**FAIR**

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)
TOTALS		**$772,679**	**$466,910**	**$123,540**	**$119,050**	**$3,160**	**$101,890**	**$63,820**
TOTAL (Priority 1-6 without escalation)		**$772,679**	**$878,370**					
			TOTAL (Priority 1-6 with escalation)					

Fire Station 8

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
Non Construction Cost [1.3] = Includes Architect/Engineer Fees, Construction Management, Client Administration, Permits, Testing, etc.
Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
722	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.10.001	Site / -	The 225A (120/240V, 1P) meter main is approaching the end of its expected useful life.	Replace the existing metered main with a new metered main.	1	EA	$2,930	$8,290	1
726	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1002	1st / Corridor	The 225A (42 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$6,520	$18,440	1
734	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.4001	1st Floor / Apparatus Bay	The 100A (18 ckts, 20A plug-in breakers, 1P) load center is approaching the end of its expected useful life.	Replace the existing load center with a new load center.	1	EA	$1,740	$4,920	1
728	D5030 - GENERAL PURPOSE ELECTRICAL POWER	D5030.50.011	Site / -	Wweatherproof receptacle cover is loose or damaged.	Replace the existing receptacle with a new weatherproof receptacle.	1	EA	$60	$170	1
733	D5040 - LIGHTING	D5040.10.001	1st / Apparatus Bay	The time clock is approaching the end of its expected useful life.	Replace the existing time clock with a new time clock.	1	EA	$260	$740	1
731	D5040 - LIGHTING	D5040.50.009	1st / Various	Interior lighting systems are at or are approaching the end of their expected useful lives.	Replace the existing interior lighting systems and associated wiring devices, switches and controls.	5,500	SF	$108,630	$307,280	1
729	D5040 - LIGHTING	D5040.50.303	1st / Exterior	The 13 lamp watts glass wall pack is approaching the end of its useful life and should be replaced.	Replace the existing lighting fixture with a new lighting fixture.	2	EA	$1,470	$4,160	1
727	D7050 - DETECTION AND ALARM	D7050.10.023	1st / Various	The existing fire alarm system is non-addressable and is lacking devices.	Provide a complete, site-wide, fully addressable fire alarm system.	5,500	SF	$43,450	$122,910	1
639	C1010 - INTERIOR PARTITIONS	C1010.10.001	1st Floor / Office	Painted gypsum wallboard is in poor condition with several cracks.	Remove and replace existing gypsum board with a new gypsum board and expansion joints. Tape and paint.	25	SF	$60	$180	2
635	C1030 - INTERIOR DOORS	C1030.10.001	1st Floor / Dorm	Interior wood door is at or approaching the end of its useful life.	Replace with new wood door.	12	EA	$30,230	$89,470	2
637	C1090 - INTERIOR SPECIALTIES	C1090.25.001	1st Floor / Bathroom	Toilet partitions are past their useful life.	Replace the toilet partitions.	3	EA	$4,120	$12,190	2
629	D2030 - BUILDING SUPPORT PLUMBING SYSTEMS	D2030.30.001	Roof / -	Roof drains are damaged and clogged.	Repair or replace roof drains.	2	EA	$2,290	$6,780	2

Fire Station 8

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
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General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
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Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
610	D3060 - VENTILATION	D3060.30.005	Roof / -	Roof exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$2,520	$7,460	2
608	D3060 - VENTILATION	D3060.30.005	Roof / -	Roof exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$2,520	$7,460	2
917	B2010 - EXTERIOR WALLS	B2010.10.001	Exterior / Exterior	Plywood siding is approaching the end of its useful life.	Remove and replace the existing plywood siding with new plywood siding. Prime and paint.	20	SF	$110	$340	3
633	C1030 - INTERIOR DOORS	C1030.10.003	1st Floor / Apparatus Bay	Interior metal door is at or approaching the end of its useful life.	Replace interior hollow metal door.	3	EA	$10,300	$31,830	3
634	C2010 - WALL FINISHES	C2010.70.001	1st Floor / Apparatus Bay	Painted gypsum wallboard is showing signs of wear.	Patch and paint the gypsum wallboard.	200	SF	$1,430	$4,420	3
632	D3060 - VENTILATION	D3060.70.001	Roof / -	Roof vent cap is loose.	Provide equipment maintenance.	2	SF	$0	$0	3
640	E2010 - FIXED FURNISHINGS	E2010.30.004	1st Floor / Bathroom	The existing casework is at or is approaching the end of its useful life.	Replace original wood cabinets and countertops.	4	LF	$2,060	$6,370	3
641	E2010 - FIXED FURNISHINGS	E2010.30.009	1st Floor / Kitchen	Plastic laminate casework is at or will be approaching the end of its expected useful life.	Provide new plastic laminate casework (upper, lower, and countertop)	32	LF	$24,620	$76,090	3
630	B2010 - EXTERIOR WALLS	B2010.50.004	Roof / -	Elastomeric sealant at roof jack is deteriorating.	Remove old sealant, clean the associated joints and re-seal it with new sealant.	5	LF	$10	$30	4
636	C2010 - WALL FINISHES	C2010.20.003	1st Floor / Bathroom	Fiberglass reinforced paneling is at or approaching the end of its useful life.	Replace the fiberglass reinforced paneling.	36	SF	$250	$810	4
638	C2010 - WALL FINISHES	C2010.70.001	1st Floor / Toilet Room	Painted gypsum wallboard is showing signs of wear.	Patch and paint the gypsum wallboard.	100	SF	$720	$2,320	4
874	A4010 - STANDARD SLABS-ON-GRADE	A4010.10.001	1st Floor / Apparatus Bay	Excessive cracks were detected in the floor slab-on-grade.	Fill the slab-on-grade cracks with sealant.	16	LF	$130	$440	5
870	B2020 - EXTERIOR WINDOWS	B2020.20.003	1st Floor / Exterior	Metal transom window is approaching the end of its useful life.	Replace metal window.	144	SF	$25,560	$85,690	5
871	B2020 - EXTERIOR WINDOWS	B2020.20.003	1st Floor / Exterior	Metal window is approaching the end of its useful life.	Replace metal window.	16	SF	$2,840	$9,520	5

Fire Station 8

DEFICIENCY TABLE

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Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
869	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.005	1st Floor / Apparatus Bay	Exterior wood entrance door, frame and hardware is approaching the end of its useful life.	Replace wood door, frame, and hardware.	1	EA	$1,720	$5,770	5
873	C2030 - FLOORING	C2030.50.001	1st Floor / Dayroom Closet	Vinyl composition tile is approaching the end of its useful life.	Remove the existing vinyl composition tile and replace.	16	SF	$140	$470	5
606	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.001	1st Floor / Water Heater	Tankless water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$1,140	$3,970	6
609	D3030 - COOLING SYSTEMS	D3030.10.018	Roof / -	Rooftop mounted packaged DX AC unit (5 tons) is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$17,180	$59,850	6

Fire Station 8

Record ID: 606
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.001
Floor/Room: 1st Floor / Water Heater
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $3,970
Deficiency Description: *Tankless water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 608
System: D3060 - VENTILATION

Item No.: D3060.30.005
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $7,460
Deficiency Description: *Roof exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 609
System: D3030 - COOLING SYSTEMS

Item No.: D3030.10.018
Floor/Room: Roof / -
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $59,850
Deficiency Description: *Rooftop mounted packaged DX AC unit (5 tons) is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 8

Record ID: 610
System: D3060 - VENTILATION

Item No.: D3060.30.005
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $7,460
Deficiency Description: *Roof exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 629
System: D2030 - BUILDING SUPPORT PLUMBING SYSTEMS

Item No.: D2030.30.001
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $6,780
Deficiency Description: *Roof drains are damaged and clogged.*

Description of Work: *Repair or replace roof drains.*

Comments:

Record ID: 630
System: B2010 - EXTERIOR WALLS

Item No.: B2010.50.004
Floor/Room: Roof / -
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 5/LF
Total Deficiency Cost: $30
Deficiency Description: *Elastomeric sealant at roof jack is deteriorating.*

Description of Work: *Remove old sealant, clean the associated joints and re-seal it with new sealant.*

Comments:

Fire Station 8

Record ID: 632
System: D3060 - VENTILATION

Item No.: D3060.70.001
Floor/Room: Roof / -
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 2/SF
Total Deficiency Cost: $0
Deficiency Description: *Roof vent cap is loose.*

Description of Work: *Provide equipment maintenance.*

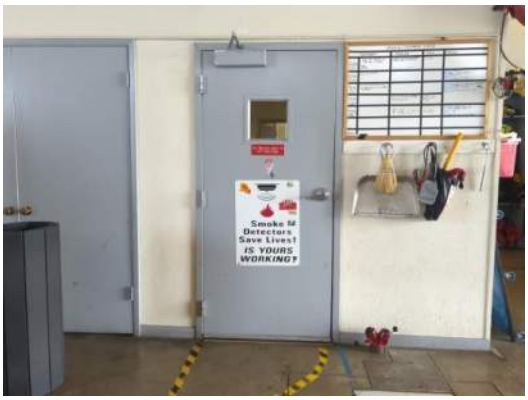
Comments:

Record ID: 633
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.003
Floor/Room: 1st Floor / Apparatus Bay
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 3/EA
Total Deficiency Cost: $31,830
Deficiency Description: *Interior metal door is at or approaching the end of its useful life.*

Description of Work: *Replace interior hollow metal door.*

Comments: *Door gets caught on frame.*



Record ID: 634
System: C2010 - WALL FINISHES

Item No.: C2010.70.001
Floor/Room: 1st Floor / Apparatus Bay
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 200/SF
Total Deficiency Cost: $4,420
Deficiency Description: *Painted gypsum wallboard is showing signs of wear.*

Description of Work: *Patch and paint the gypsum wallboard.*

Comments:

Fire Station 8

Record ID: 635
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.001
Floor/Room: 1st Floor / Dorm
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 12/EA
Total Deficiency Cost: $89,470
Deficiency Description: *Interior wood door is at or approaching the end of its useful life.*

Description of Work: *Replace with new wood door.*

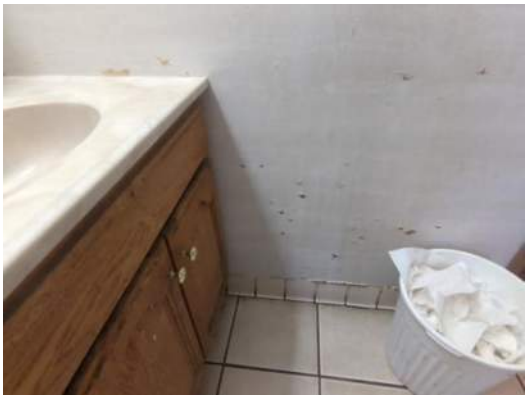
Comments: *All interior doors.*

Record ID: 636
System: C2010 - WALL FINISHES

Item No.: C2010.20.003
Floor/Room: 1st Floor / Bathroom
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 36/SF
Total Deficiency Cost: $810
Deficiency Description: *Fiberglass reinforced paneling is at or approaching the end of its useful life.*

Description of Work: *Replace the fiberglass reinforced paneling.*

Comments:



Record ID: 637
System: C1090 - INTERIOR SPECIALTIES

Item No.: C1090.25.001
Floor/Room: 1st Floor / Bathroom
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 3/EA
Total Deficiency Cost: $12,190
Deficiency Description: *Toilet partitions are past their useful life.*

Description of Work: *Replace the toilet partitions.*

Comments:

Fire Station 8

Record ID: 638
System: C2010 - WALL FINISHES

Item No.: C2010.70.001
Floor/Room: 1st Floor / Toilet Room
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 100/SF
Total Deficiency Cost: $2,320
Deficiency Description: *Painted gypsum wallboard is showing signs of wear.*

Description of Work: *Patch and paint the gypsum wallboard.*

Comments:

Record ID: 639
System: C1010 - INTERIOR PARTITIONS

Item No.: C1010.10.001
Floor/Room: 1st Floor / Office
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 25/SF
Total Deficiency Cost: $180
Deficiency Description: *Painted gypsum wallboard is in poor condition with several cracks.*

Description of Work: *Remove and replace existing gypsum board with a new gypsum board and expansion joints. Tape and paint.*

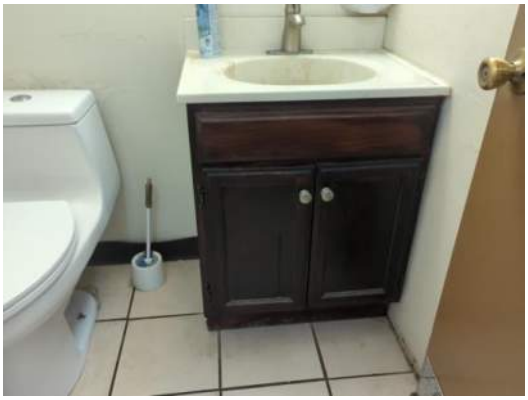
Comments:

Record ID: 640
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.004
Floor/Room: 1st Floor / Bathroom
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 4/LF
Total Deficiency Cost: $6,370
Deficiency Description: *The existing casework is at or is approaching the end of its useful life.*

Description of Work: *Replace original wood cabinets and countertops.*

Comments:



Fire Station 8

Record ID: 641
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.009
Floor/Room: 1st Floor / Kitchen
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 32/LF
Total Deficiency Cost: $76,090
Deficiency Description: *Plastic laminate casework is at or will be approaching the end of its expected useful life.*

Description of Work: *Provide new plastic laminate casework (upper, lower, and countertop)*

Comments:

Record ID: 722
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.10.001
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $8,290
Deficiency Description: *The 225A (120/240V, 1P) meter main is approaching the end of its expected useful life.*

Description of Work: *Replace the existing metered main with a new metered main.*

Comments:

Record ID: 726
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1002
Floor/Room: 1st / Corridor
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $18,440
Deficiency Description: *The 225A (42 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.*

Description of Work: *Replace the existing panelboard with a new panelboard.*

Comments: *Cover is bent.*

Fire Station 8

Record ID: 727
System: D7050 - DETECTION AND ALARM

Item No.: D7050.10.023
Floor/Room: 1st / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 5,500/SF
Total Deficiency Cost: $122,910
Deficiency Description: *The existing fire alarm system is non-addressable and is lacking devices.*

Description of Work: *Provide a complete, site-wide, fully addressable fire alarm system.*

Comments:

Record ID: 728
System: D5030 - GENERAL PURPOSE ELECTRICAL POWER

Item No.: D5030.50.011
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $170
Deficiency Description: *Wweatherproof receptacle cover is loose or damaged.*

Description of Work: *Replace the existing receptacle with a new weatherproof receptacle.*

Comments:

Record ID: 729
System: D5040 - LIGHTING

Item No.: D5040.50.303
Floor/Room: 1st / Exterior
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $4,160
Deficiency Description: *The 13 lamp watts glass wall pack is approaching the end of its useful life and should be replaced.*

Description of Work: *Replace the existing lighting fixture with a new lighting fixture.*

Comments:

Fire Station 8

Record ID: 731
System: D5040 - LIGHTING

Item No.: D5040.50.009
Floor/Room: 1st / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 5,500/SF
Total Deficiency Cost: $307,280
Deficiency Description: *Interior lighting systems are at or are approaching the end of their expected useful lives.*

Description of Work: *Replace the existing interior lighting systems and associated wiring devices, switches and controls.*

Comments:

Record ID: 733
System: D5040 - LIGHTING

Item No.: D5040.10.001
Floor/Room: 1st / Apparatus Bay
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $740
Deficiency Description: *The time clock is approaching the end of its expected useful life.*

Description of Work: *Replace the existing time clock with a new time clock.*

Comments:

Record ID: 734
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION

Item No.: D5020.30.4001
Floor/Room: 1st Floor / Apparatus Bay
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $4,920
Deficiency Description: *The 100A (18 ckts, 20A plug-in breakers, 1P) load center is approaching the end of its expected useful life.*

Description of Work: *Replace the existing load center with a new load center.*

Comments:

Fire Station 8

Record ID: 869
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.005
Floor/Room: 1st Floor / Apparatus Bay
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $5,770
Deficiency Description: *Exterior wood entrance door, frame and hardware is approaching the end of its useful life.*

Description of Work: *Replace wood door, frame, and hardware.*

Comments:

Record ID: 870
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.003
Floor/Room: 1st Floor / Exterior
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 144/SF
Total Deficiency Cost: $85,690
Deficiency Description: *Metal transom window is approaching the end of its useful life.*

Description of Work: *Replace metal window.*

Comments:

Record ID: 871
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.20.003
Floor/Room: 1st Floor / Exterior
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 16/SF
Total Deficiency Cost: $9,520
Deficiency Description: *Metal window is approaching the end of its useful life.*

Description of Work: *Replace metal window.*

Comments:

Fire Station 8

Record ID: 873
System: C2030 - FLOORING

Item No.: C2030.50.001
Floor/Room: 1st Floor / Dayroom Closet
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 16/SF
Total Deficiency Cost: $470
Deficiency Description: *Vinyl composition tile is approaching the end of its useful life.*

Description of Work: *Remove the existing vinyl composition tile and replace.*

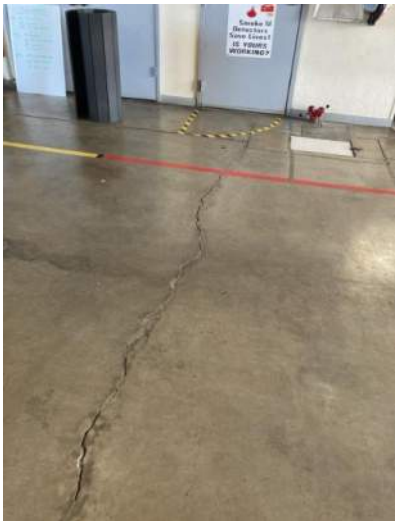
Comments:

Record ID: 874
System: A4010 - STANDARD SLABS-ON-GRADE

Item No.: A4010.10.001
Floor/Room: 1st Floor / Apparatus Bay
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 16/LF
Total Deficiency Cost: $440
Deficiency Description: *Excessive cracks were detected in the floor slab-on-grade.*

Description of Work: *Fill the slab-on-grade cracks with sealant.*

Comments:



Record ID: 917
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.001
Floor/Room: Exterior / Exterior
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 20/SF
Total Deficiency Cost: $340
Deficiency Description: *Plywood siding is approaching the end of its useful life.*

Description of Work: *Remove and replace the existing plywood siding with new plywood siding. Prime and paint.*

Comments: *Wood rot at base of west wall.*

Fire Station 10
Detailed Report
Address: 510 CA-1, Bodega Bay, CA 94923

Statistics

Year Built (approximate):	1997
Total Building Area:	8,582 SF

FCA Summary

Capital Renewal Cost:	**$1,747,086**
FCI:	0.116
Condition Score:	C
Condition Rating:	Poor
Replacement Cost:	$15,038,000
Replacement Cost/SF:	$ 1,752

Narratives

Architectural Systems

Sonoma County Fire District Station 10 is located at 510 CA-1 in Bodega Bay, California. The two-story 8,582-square-foot station was constructed in 1997 by the Bodega Bay Fire Protection District. The ground level houses a three-bay apparatus bay, offices, and a training room. Additionally, a community room and large bathroom were constructed, intended to support board functions and training sessions. The second level accommodates living quarters, a kitchen, and dayroom. The living quarters include three original dormitories, with two additional rooms created through alteration of a training room.

The primary structure of the building is post and beam with wood frame infill walls. The roof is of wood frame construction. Exterior finishes consist of predominantly cement plaster walls and asphalt roof shingles. A steel framed stairway with concrete treads leads from site up to the second-balcony story day room. The building features vinyl windows with insulated glazing, and insulated glass skylights. Overall, the exterior finishes are in poor condition. The cement plaster throughout exhibits signs of aging, with ample cracking, spalling, and stains. The steel framed exterior stair exhibits significant corrosion and the concrete treads are spalling in multiple places. The asphalt shingles, skylights, and windows were recently installed and are in good condition with no major damage observed. The exterior metal doors exhibit corrosion and will require repairs.

Interior finishes consist of epoxy sealed concrete, vinyl composition tile, wood composite flooring, ceramic tile, and carpet throughout the offices and meeting rooms. The interior wood doors are mostly in good condition. The carpet in the meeting rooms and offices is beyond its useful life and is recommended for replacement. The vinyl composition tile in the hallway is approaching the end of its useful life, necessitating replacement. The plastic laminate countertops and cabinets throughout are in poor condition and are recommended for replacement. Overall, the interior finishes are in poor condition.

Mechanical Systems

Mechanical Systems

The mechanical system at Fire Station 10 is serviced by two propane furnaces that service the administrative spaces, living quarters and fire department spaces. Two propane unit heaters serve the apparatus bay. A roof exhaust fan, an in-line exhaust fan, and a sidewall ventilator serve the building. A Plymovent system serves each parking bay. The conditioned air is distributed to the spaces via concealed hard duct and diffusers. The site also has a shop air compressor and an air/oxygen containment fill station. The roof exhaust fan, sidewall ventilator, unit heaters and the furnaces are approaching the end of their useful lives and are recommended for replacement within a 10-year period.

It should be noted that the Plymovent ductwork goes through a mechanical space that has been converted into living quarters. If the ductwork should leak, there are concerns that the exhaust fumes from the Plymovent system will infiltrate into the room, causing hazardous conditions for the occupants within the space. It is recommended that the ductwork be rerouted away from the living quarters, or the space be converted back to a mechanical room for the safety of its occupants.

Plumbing Systems

The plumbing systems at Fire Station 10 are serviced by domestic cold and hot water, sanitary waste, storm drains, propane gas and vent piping. Propane gas is provided via two 500-gallon tanks present at the site. The domestic hot water heater is serviced by a propane gas water heater. In addition, the building has a water softener system, and a water filtration treatment system was observed at the kitchen sink. Flush tank water closets, lavatories, urinals, kitchen sinks, and showers were observed. The water heater is recommended for replacement within a 10-year period.

It was observed that small propane tanks were being used for the outdoor barbecue appliance. It is recommended that a new gas line be plumbed specifically for this equipment in lieu of using the propane tank.

Fire Protection Systems

Fire Station 10 is fire sprinklered and portable fire extinguishers were observed. The fire sprinkler heads throughout the exterior of the building appear to have excessive corrosion from the ocean air due to the fire station's proximity to the coast. It is recommended that all the exterior fire sprinkler heads be replaced due to the corrosion.

Electrical Systems

Power Distribution

Electrical service to Fire Station 10 is delivered underground from PG&E and terminates in the main switchboard in the apparatus bay. The switchboard consists of a PG&E meter and a main bolted pressure switch. The equipment is rated for 400A, 120/240V, single phase and is original to the station's 1997 construction. There were some scuff marks on the equipment and small signs of rust. The nameplate on the main pressure switch was also illegible. The equipment is floor mounted directly to the slab without a housekeeping pad for protection.

Immediately adjacent to the main switch is an Automatic Transfer Switch (ATS) that is connected to an onsite generator to back up power to the entire fire station. This transfer switch was rated for 400A and appeared original to the building.

There are several panelboards located in the fire station. These panelboards are GE A-series type and original to the building.

Panel LA is a two-section type rated for 225A, 240V, single phase that is recessed into the wall in the apparatus bay. The panel had some signs of dust/dirt intrusion, small signs of rust, and some missing screws.

Panel LB is rated for 225A, 240V, single phase and located in the community room. This space is an interior, conditioned room, and the panel enclosure appeared to be in good condition.

We did not see any labels on the equipment indicating any testing or preventative maintenance has been performed. There were no arc flash warning labels installed.

The panelboards are approximately 27 years old and nearing the end of their expected useful life. The equipment in the apparatus bay is exposed to the coastal air environment and showed signs of degradation.

Standby Power

Fire Station 10 has an outdoor standby generator in a shed outside the apparatus bay. The generator is configured to provide power to the entire fire station upon loss of utility power.

The generator is manufactured by Blue Star Power Systems and rated 100KW, 240V, 1-phase. The nameplate on the equipment indicated it was manufactured recently in 2017. The generator control panel showed no alarm or warning conditions. No history of issues with the generator operation was discovered. The generator is in an enclosed structure and does not have weatherproof housing. The generator is supplied with diesel fuel from a subbase fuel tank.

The generator engine housing had some blackened deposits indicating a possible fuel leak in its history. There were labels indicating the generator is regularly maintained. Based on age, the equipment is not close to its rated life and should perform for many more years with adequate maintenance.

The output of the generator is connected to the ATS next to the main switch. Modern codes require the ATS switch to have test/bypass functionality and that the generator be provided with a method for a portable generator connection if the main unit fails. These were not present.

Solar

The station has a ground-mounted solar array located on a hillside facing the coast on the property. The modules are on concrete piers and angled. There are (108) 200W Sanyo polycrystalline panels. The modules were intact at the time of the assessment. Some dirt built up on the panels was noted. The east side of the array was partially obstructed from sunlight from overgrown shrubs.

Electrical Systems (cont'd)

The output of the arrays runs to three string inverters mounted on the north exterior of the fire station. These were Sunny Boy inverters within fiberglass enclosures. The nameplates were difficult to read and weathered. The inverter output supplied a disconnect switch that was heavily rusted.

The nameplates and records indicate this system was installed in 2007. The inverters are nearing the end of their expected useful life. The amount of power produced by the system could not be determined without load monitoring of the production. The system is aging and approaching the time for a replacement or refurbishment. Although the PV system is not critical to the operation of the fire system, it contributes to energy savings.

Lighting Systems

Interior lighting is based on fluorescent fixtures. The apparatus bay contains two-lamp surface mounted strip fixtures. The non-residential first floor room typically contains surface mounted 1'x4' wraparound fluorescent fixtures. Some of these fixtures had cracks in their diffusers. There are downlights with open reflectors and compact fluorescent lamps at various locations. The second-floor residential area typically contains downlights similar to the first floor.

The exit signs are the self-luminous style. These cannot be re-lamped and brightness diminishes over time. Lighting toggle switches are used for control and motion sensor shut-off wall-mounted switches are used in the restrooms. The motion detector switches are not rugged devices and showed wear.

The interior lighting is past the end of its expected life. While re-lamping to LED's can improve the lighting and reduce energy usage, a recommended long-term solution would be to replace the fixture with a pure LED based type.

The exterior lighting consists of light poles and wall mounted fixtures around the perimeter of the fire station. There is also under canopy lighting installed in the soffits of the apparatus bay and building entrance. The wall-mounted fixtures showed discoloration of diffusers and housings as expected in a coastal environment. This would at a minimum reduce lighting levels. The light poles are white, square type with shoebox fixtures. The poles showed dirt build up and paint peeling. No rust gaps in the poles were noted. The shoebox fixture housing also had paint peeling. The original lamps have been replaced with an LED equivalent. Due to age and the salt air coastal conditions, replacement for all exterior lighting is recommended.

New lighting controls should be provided as well to comply with current energy code requirements.

Fire Alarm Systems

The station has a main fire alarm panel located in the apparatus bay. Manufactured in 2023 and recently installed, the panel is a Fire-Lite MS-10UD. The control panel indicated all normal conditions. The fire station contains pull stations, smoke detectors, heat detectors, and combination strobe/horns. The field devices appeared to have been re-used when the fire alarm panel was replaced. This fire alarm panel is compatible with the existing field devices. There were smoke detectors located outside of the sleeping quarters. These appeared to be battery powered, single station type.

The fire alarm panel has many more years of service remaining. It is recommended the aging field devices be replaced with new to create a completely reliable system.

Conclusion

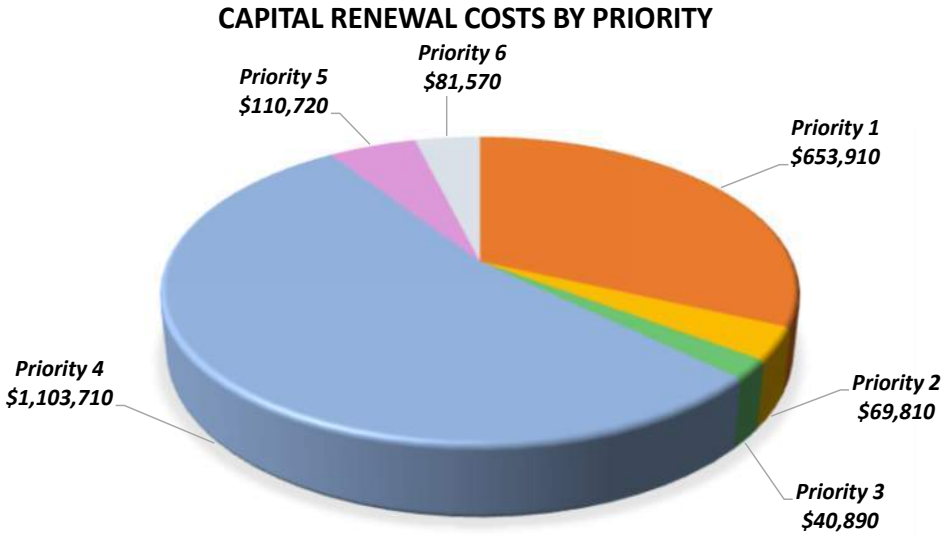
For Fire Station 10, this chart summarizes the Capital Renewal Costs by Priority with their associated costs and escalation based on the time period anticipated for implementation.

Detailed Capital Renewal Costs by Priority, broken down by Building System Class, are included in the following CIP Deficiency Cost Summary. This chart summarizes all of the more detailed information from the subsequent Deficiency Table. To supplement the Deficiency Table, representative photographs and descriptions are included.

Fire Station 10

Capital Renewal Costs by Priority

Building	Priority 1 8% Escalation	Priority 2 13% Escalation	Priority 3 18% Escalation	Priority 4 23% Escalation	Priority 5 28% Escalation	Priority 6 33% Escalation	Total
Fire Station 10	$653,910	$69,810	$40,890	$1,103,710	$110,720	$81,570	**$2,060,610**
Total	**$653,910**	**$69,810**	**$40,890**	**$1,103,710**	**$110,720**	**$81,570**	**$2,060,610**
	31.73%	3.39%	1.98%	53.56%	5.37%	3.96%	**100.00%**



Fire Station 10

Capital Renewal Cost:	**$1,747,086**	FCI:	**0.116**
Replacement Cost:	**$15,038,000**	Condition Score:	**C**
Replacement Cost/SF:	**$ 1,752**	Condition Rating:	**POOR**

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	**$210**	-	-	-	-	$270	-
B1080	STAIRS	**$65,636**	-	-	-	$80,730	-	-
B2010	EXTERIOR WALLS	**$103,169**	-	-	-	$126,900	-	-
B2020	EXTERIOR WINDOWS	**$1,205**	-	-	$1,420	-	-	-
B2050	EXTERIOR DOORS AND GRILLES	**$83,918**	-	$58,360	$5,320	$20,300	$14,410	-
B2080	EXTERIOR WALL APPURTENANCES	**$5,631**	-	$6,360	-	-	-	-
C1030	INTERIOR DOORS	**$5,395**	-	-	$1,240	$930	$4,590	-
C1090	INTERIOR SPECIALTIES	**$3,588**	-	-	-	-	$4,590	-
C2010	WALL FINISHES	**$1,362**	-	-	-	$130	$1,600	-
C2030	FLOORING	**$32,923**	-	-	-	-	$42,140	-
D2010	DOMESTIC WATER DISTRIBUTION	**$23,180**	-	-	-	-	-	$30,830
D2060	PROCESS SUPPORT PLUMBING SYSTEMS	**$14,982**	-	-	-	-	$19,180	-
D3020	HEATING SYSTEMS	**$54,060**	-	-	$18,760	-	-	$50,740
D3060	VENTILATION	**$16,501**	-	$5,090	$14,150	-	-	-
D5010	FACILITY POWER GENERATION	**$688,997**	$28,970	-	-	$814,480	-	-
D5020	ELECTRICAL SERVICE AND DISTRIBUTION	**$48,978**	-	-	-	$60,240	-	-
D5030	GENERAL PURPOSE ELECTRICAL POWER	**$1,729**	$1,860	-	-	-	-	-
D5040	LIGHTING	**$458,118**	$494,770	-	-	-	-	-
D7050	DETECTION AND ALARM	**$36,721**	$39,660	-	-	-	-	-

Fire Station 10

Capital Renewal Cost:	**$1,747,086**	FCI:	**0.116**
Replacement Cost:	**$15,038,000**	Condition Score:	**C**
Replacement Cost/SF:	**$1,749**	Condition Rating:	**POOR**

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	**$18,701**	-	-	-	-	$23,940	-
G2020	PARKING LOTS	**$82,085**	$88,650	-	-	-	-	-
TOTALS		**$1,747,086**	**$653,910**	**$69,810**	**$40,890**	**$1,103,710**	**$110,720**	**$81,570**
TOTAL (Priority 1-6 without escalation)		**$1,747,086**	**$2,060,610**					
			TOTAL (Priority 1-6 with escalation)					

Fire Station 10

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
City Cost Index [1.107] = A Compensation for Cost Variation per Geographical Location
Non Construction Cost [1.3] = Includes Architect/Engineer Fees, Construction Management, Client Administration, Permits, Testing, etc.
Estimating Contingency [1.3] = Anticipates fluctuation in manufacturer pricing, market costs, special owner administration costs, and project specific unknowns

Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
720	D5010 - FACILITY POWER GENERATION	D5010.70.007	1st / Apparatus	The 400A 3-pole automatic transfer switch (ATS) is approaching the end of its expected useful life.	Replace the existing 3-pole ATS with a new 3-pole ATS.	1	EA	$10,240	$28,970	1
643	D5030 - GENERAL PURPOSE ELECTRICAL POWER	D5030.50.008	1st / Meeting	A 20A duplex receptacle, 120V, grounded, is damaged and should be replaced.	Replace the damaged receptacle with a new receptacle.	1	EA	$40	$110	1
717	D5030 - GENERAL PURPOSE ELECTRICAL POWER	D5030.50.011	Site / -	Weatherproof receptacles are damaged and should be replaced.	Replace the existing receptacle with a weatherproof receptacle,	10	EA	$620	$1,750	1
715	D5040 - LIGHTING	D5040.50.009	All / Various	Interior lighting systems are at or are approaching the end of their expected useful lives.	Replace the existing interior lighting systems and associated wiring devices, switches and controls.	8,500	SF	$167,890	$474,910	1
713	D5040 - LIGHTING	D5040.50.304	Site / -	The wall pack is approaching the end of its useful life and should be replaced.	Replace the existing lighting fixture with a new lighting fixture.	13	EA	$7,020	$19,860	1
719	D7050 - DETECTION AND ALARM	D7050.10.018	All / Various	The fire alarm field devices are at the end of its expected useful life.	Replace the existing devices.	30	EA	$14,020	$39,660	1
712	G2020 - PARKING LOTS	G2020.70.015	Site / -	Exterior lighting: Pole and pole mounted fixture is in poor condition.	Demolish existing pole and pole mounted fixture and Install/ replace with new.	7	EA	$31,340	$88,650	1
596	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.006	1st Floor / Compressor Room	Compressor room wood door: wood rot hinge side bottom of door.	Replace with steel door, frame, and hardware.	1	EA	$2,510	$7,430	2
590	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.006	1st Floor / Lobby	Doors are past useful life. Door frames are corroded.	Replace with steel door, frame, and hardware.	6	EA	$15,060	$44,570	2
587	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.009	1st Floor / Exterior Community Room	Polyurethane sealant is showing signs of damage.	Replace sealant.	75	LF	$2,150	$6,360	2
868	B2080 - EXTERIOR WALL APPURTENANCES	B2080.50.004	2nd Floor / Balcony	Guardrail is showing signs of corrosion.	Repair/replace handrails/guardrails.	15	LF	$2,150	$6,360	2
556	D3060 - VENTILATION	D3060.30.004	Roof / -	Roof exhaust fan is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$1,720	$5,090	2
588	B2020 - EXTERIOR WINDOWS	B2020.10.001	1st Floor / Community Room	Double door is hard to operate, in need of adjustment.	Inspect doors. Repair/tune up as necessary to make properly operable.	2	EA	$460	$1,420	3

Fire Station 10

DEFICIENCY TABLE

(1) Deficiency Cost = Qty x Unit Cost
(2) Total Deficiency Cost = (Deficiency Cost) x (General Construction Factor) x (City Cost Index) x (Non Construction Cost) x [Estimating Contingency] x (Escalation)
General Construction Factor [1.4] = General Conditions, Overhead and Profit, Insurance and Bonds
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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
595	B2050 - EXTERIOR DOORS AND GRILLES	B2050.90.004	1st Floor / Compressor Room	Hardware is corroded.	Replace the associated hardware.	1	EA	$1,720	$5,320	3
602	C1030 - INTERIOR DOORS	C1030.90.005	1st Floor / Laundry	Interior door is sagging.	Replace interior door hardware.	1	EA	$400	$1,240	3
584	D3020 - HEATING SYSTEMS	D3020.10.007	1st Floor / Community Room (Thomas	Gas-fired furnace is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$6,070	$18,760	3
573	D3060 - VENTILATION	D3060.30.007	1st Floor / Apparatus	Sidewall ventilator is approaching the end of its expected useful life.	Provide equipment replacement and installation.	2	EA	$4,580	$14,150	3
531	B1080 - STAIRS	B1080.10.005	Site / -	Entire exterior steel stairway is at or approaching the end of its useful life; metal deck and framing is corroding and the concrete treads are spalling.	Replace entire steel stairway.	2	FLT	$25,060	$80,730	4
839	B2010 - EXTERIOR WALLS	B2010.10.003	1st Floor / Exterior	Wood decay on exterior siding.	Replace the existing wood siding. Place a new siding over building paper and plywood sheathing.	50	SF	$460	$1,480	4
550	B2010 - EXTERIOR WALLS	B2010.10.009	Site / -	Exterior cement plaster walls are damaged and spalling in several areas.	Clean, patch, and repair the cement plaster wall finish.	2,000	SF	$38,930	$125,420	4
592	B2050 - EXTERIOR DOORS AND GRILLES	B2050.30.002	1st Floor / Exterior	Center Bay door is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$6,300	$20,300	4
623	C1030 - INTERIOR DOORS	C1030.90.003	1st Floor / Laundry	Metal door frames are in fair to poor condition.	Repair and refinish the metal door frames.	1	EA	$290	$930	4
624	C2010 - WALL FINISHES	C2010.70.001	1st Floor / Laundry	Painted gypsum wallboard is showing signs of wear.	Patch and paint the gypsum wallboard.	5	SF	$40	$130	4
721	D5010 - FACILITY POWER GENERATION	D5010.30.003	Site / -	The ground mouted photovoltaic power system is in approaching the end of its useful life.	Replace the existing photovoltaic power system and with a new one.	20,000	W	$252,820	$814,480	4
645	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.10.302	1st / Apparatus	The 400A metered main switchboard (3P, 120/208) is approaching the end of its expected useful life.	Replace the existing metered main switchboard with a new metered main switchboard.	1	EA	$6,320	$20,360	4
642	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1001	1st / Community	The 100A (20 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$2,930	$9,440	4

Fire Station 10

DEFICIENCY TABLE

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
644	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1001	1st / Apparatus	The 100A (20 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$2,930	$9,440	4
718	D5020 - ELECTRICAL SERVICE AND DISTRIBUTION	D5020.30.1002	1st / Apparatus	The 225A (42 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.	Replace the existing panelboard with a new panelboard.	1	EA	$6,520	$21,000	4
867	A4010 - STANDARD SLABS-ON-GRADE	A4010.10.001	2nd Floor / Balcony	Excessive cracks were detected in concrete patio deck.	Fill the patio deck cracks with sealant.	10	LF	$80	$270	5
866	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.006	2nd Floor / Balcony	Exterior steel entrance door, frame and hardware is approaching the end of its useful life.	Replace steel door, frame, and hardware.	1	EA	$2,510	$8,410	5
627	B2050 - EXTERIOR DOORS AND GRILLES	B2050.10.007	2nd Floor / Dorm Room 2	Damaged plastic laminate on door edge.	Refurbish/repair wood door.	1	EA	$1,790	$6,000	5
861	C1030 - INTERIOR DOORS	C1030.10.008	2nd Floor / -	Interior wood door is in visual need of refurbishment.	Refurbish and restain the wood door.	3	EA	$1,030	$3,450	5
599	C1030 - INTERIOR DOORS	C1030.10.009	1st Floor / Men's Toilet	Metal door and frame is corroded.	Refurbish/repair interior door and frame.	1	EA	$340	$1,140	5
850	C1090 - INTERIOR SPECIALTIES	C1090.25.001	1st Floor / Mens RR	Corroding on the base of partition in the mens restroom.	Replace the toilet partitions.	1	EA	$1,370	$4,590	5
860	C2010 - WALL FINISHES	C2010.70.001	2nd Floor / Living quarters hallway	Painted gypsum wallboard is showing signs of wear.	Patch and paint the gypsum wallboard.	10	SF	$70	$230	5
865	C2010 - WALL FINISHES	C2010.70.T05	2nd Floor / Day room	Wall paint is showing signs of wear.	Repaint walls.	50	SF	$410	$1,370	5
855	C2030 - FLOORING	C2030.10.002	1st Floor / App bay	Epoxy is approaching the end of its useful life.	Remove the existing epoxy and replace.	400	SF	$6,870	$23,030	5
849	C2030 - FLOORING	C2030.50.001	1st Floor / Hallway	Vinyl composition tile is approaching the end of its useful life.	Remove the existing vinyl composition tile and replace.	200	SF	$1,720	$5,770	5
853	C2030 - FLOORING	C2030.75.001	1st Floor / Chief's office	Carpet tile is damaged.	Replace carpet tile.	8	SF	$70	$230	5
598	C2030 - FLOORING	C2030.75.002	1st Floor / Community Room	Rolled carpet seams are failing.	Remove existing rolled carpeting and replace it with new 40 oz. nylon carpet.	400	SF	$3,660	$12,270	5
854	C2030 - FLOORING	C2030.75.003	1st Floor / App bay	Rubber transition strip / carpet threshold is deteriorating.	Remove and replace rubber strip.	3	LF	$30	$100	5
852	C2030 - FLOORING	C2030.90.001	1st Floor / Conference	6" Vinyl wall base is approaching the end of its useful life.	Replace the vinyl wall base.	40	LF	$220	$740	5

Fire Station 10

DEFICIENCY TABLE

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Record ID	System	Item No.	Location	Deficiency Description	Description of Work	Qty	Unit	Deficiency Cost (1)	Total Deficiency Cost (2)	Priority
570	D2060 - PROCESS SUPPORT PLUMBING SYSTEMS	D2060.10.001	1st Floor / Air Compressor	Air compressor is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$5,720	$19,180	5
862	E2010 - FIXED FURNISHINGS	E2010.30.001	2nd Floor / Living quarter restroom	Plastic laminate countertops are at or are approaching the end of their useful life.	Repair or replace plastic laminate countertops.	6	LF	$270	$910	5
851	E2010 - FIXED FURNISHINGS	E2010.30.001	1st Floor / Office	Plastic laminate countertops are at or are approaching the end of their useful life.	Repair or replace plastic laminate countertops.	10	LF	$460	$1,540	5
600	E2010 - FIXED FURNISHINGS	E2010.30.005	1st Floor / Work Room	The existing casework is in need of refurbishment.	Repair, refurbish, and refinish the existing wood casework and counters.	5	LF	$1,140	$3,820	5
601	E2010 - FIXED FURNISHINGS	E2010.30.005	1st Floor / Chief office	The existing casework is in need of refurbishment.	Repair, refurbish, and refinish the existing wood casework and counters.	3	LF	$690	$2,310	5
625	E2010 - FIXED FURNISHINGS	E2010.30.005	2nd Floor / Hallway	The existing casework is in need of refurbishment.	Repair, refurbish, and refinish the existing wood casework and counters.	10	LF	$2,290	$7,680	5
626	E2010 - FIXED FURNISHINGS	E2010.30.005	2nd Floor / Kitchen	The existing casework is in need of refurbishment.	Repair, refurbish, and refinish the existing wood casework and counters.	10	LF	$2,290	$7,680	5
580	D2010 - DOMESTIC WATER DISTRIBUTION	D2010.20.003	1st Floor / Mech Closet	Gas fired water heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$8,850	$30,830	6
563	D3020 - HEATING SYSTEMS	D3020.10.007	2nd Floor / Mechanical Loft	Gas-fired furnace is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$6,070	$21,140	6
575	D3020 - HEATING SYSTEMS	D3020.70.003	1st Floor / Apparatus	Gas fired unit heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,250	$14,800	6
574	D3020 - HEATING SYSTEMS	D3020.70.003	1st Floor / Apparatus	Gas fired unit heater is approaching the end of its expected useful life.	Provide equipment replacement and installation.	1	EA	$4,250	$14,800	6

Fire Station 10

Record ID: 531
System: B1080 - STAIRS

Item No.: B1080.10.005
Floor/Room: Site / -
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 2/FLT
Total Deficiency Cost: $80,730
Deficiency Description: *Entire exterior steel stairway is at or approaching the end of its useful life; metal deck and framing is corroding and the concrete treads are spalling.*

Description of Work: *Replace entire steel stairway.*

Comments:

Record ID: 550
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.009
Floor/Room: Site / -
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 2,000/SF
Total Deficiency Cost: $125,420
Deficiency Description: *Exterior cement plaster walls are damaged and spalling in several areas.*

Description of Work: *Clean, patch, and repair the cement plaster wall finish.*

Comments:

Record ID: 556
System: D3060 - VENTILATION

Item No.: D3060.30.004
Floor/Room: Roof / -
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $5,090
Deficiency Description: *Roof exhaust fan is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 10

Record ID: 563
System: D3020 - HEATING SYSTEMS

Item No.: D3020.10.007
Floor/Room: 2nd Floor / Mechanical Loft
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $21,140
Deficiency Description: *Gas-fired furnace is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 570
System: D2060 - PROCESS SUPPORT PLUMBING SYSTEMS

Item No.: D2060.10.001
Floor/Room: 1st Floor / Air Compressor
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $19,180
Deficiency Description: *Air compressor is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 573
System: D3060 - VENTILATION

Item No.: D3060.30.007
Floor/Room: 1st Floor / Apparatus
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $14,150
Deficiency Description: *Sidewall ventilator is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Fire Station 10

Record ID: 574
System: D3020 - HEATING SYSTEMS

Item No.: D3020.70.003
Floor/Room: 1st Floor / Apparatus
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $14,800
Deficiency Description: *Gas fired unit heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 575
System: D3020 - HEATING SYSTEMS

Item No.: D3020.70.003
Floor/Room: 1st Floor / Apparatus
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $14,800
Deficiency Description: *Gas fired unit heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 580
System: D2010 - DOMESTIC WATER DISTRIBUTION

Item No.: D2010.20.003
Floor/Room: 1st Floor / Mech Closet
Priority: Planned - Long Term (6-10 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $30,830
Deficiency Description: *Gas fired water heater is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments: *Propane water heater.*

Fire Station 10

Record ID: 584
System: D3020 - HEATING SYSTEMS

Item No.: D3020.10.007
Floor/Room: 1st Floor / Community Room (Thomas Burke)
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $18,760
Deficiency Description: *Gas-fired furnace is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments:

Record ID: 587
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.009
Floor/Room: 1st Floor / Exterior Community Room
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 75/LF
Total Deficiency Cost: $6,360
Deficiency Description: *Polyurethane sealant is showing signs of damage.*

Description of Work: *Replace sealant.*

Comments: *Community Room entrance. Typical at all aluminum doors.*

Record ID: 588
System: B2020 - EXTERIOR WINDOWS

Item No.: B2020.10.001
Floor/Room: 1st Floor / Community Room
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 2/EA
Total Deficiency Cost: $1,420
Deficiency Description: *Double door is hard to operate, in need of adjustment.*

Description of Work: *Inspect doors. Repair/tune up as necessary to make properly operable.*

Comments: *Community Room exterior entrance.*

Fire Station 10

Record ID: 590
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.006
Floor/Room: 1st Floor / Lobby
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 6/EA
Total Deficiency Cost: $44,570
Deficiency Description: *Doors are past useful life. Door frames are corroded.*

Description of Work: *Replace with steel door, frame, and hardware.*

Comments: *At lobby, apparatus bay, rear apparatus bay, mech room, and community room exit door. The doors are wood.*

Record ID: 592
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.30.002
Floor/Room: 1st Floor / Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $20,300
Deficiency Description: *Center Bay door is approaching the end of its expected useful life.*

Description of Work: *Provide equipment replacement and installation.*

Comments: *East door has been replaced more recently.*

Record ID: 595
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.90.004
Floor/Room: 1st Floor / Compressor Room
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $5,320
Deficiency Description: *Hardware is corroded.*

Description of Work: *Replace the associated hardware.*

Comments: *Compressor room door.*

Fire Station 10

Record ID: 596
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.006
Floor/Room: 1st Floor / Compressor Room
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $7,430
Deficiency Description: *Compressor room wood door: wood rot hinge side bottom of door.*

Description of Work: *Replace with steel door, frame, and hardware.*

Comments:

Record ID: 598
System: C2030 - FLOORING

Item No.: C2030.75.002
Floor/Room: 1st Floor / Community Room
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 400/SF
Total Deficiency Cost: $12,270
Deficiency Description: *Rolled carpet seams are failing.*

Description of Work: *Remove existing rolled carpeting and replace it with new 40 oz. nylon carpet.*

Comments:

Record ID: 599
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.009
Floor/Room: 1st Floor / Men's Toilet
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $1,140
Deficiency Description: *Metal door and frame is corroded.*

Description of Work: *Refurbish/repair interior door and frame.*

Comments:

Fire Station 10

Record ID: 600
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.005
Floor/Room: 1st Floor / Work Room
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 5/LF
Total Deficiency Cost: $3,820
Deficiency Description: *The existing casework is in need of refurbishment.*

Description of Work: *Repair, refurbish, and refinish the existing wood casework and counters.*

Comments:

Record ID: 601
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.005
Floor/Room: 1st Floor / Chief office
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 3/LF
Total Deficiency Cost: $2,310
Deficiency Description: *The existing casework is in need of refurbishment.*

Description of Work: *Repair, refurbish, and refinish the existing wood casework and counters.*

Comments:

Record ID: 602
System: C1030 - INTERIOR DOORS

Item No.: C1030.90.005
Floor/Room: 1st Floor / Laundry
Priority: Impending (2-3 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $1,240
Deficiency Description: *Interior door is sagging.*

Description of Work: *Replace interior door hardware.*

Comments:

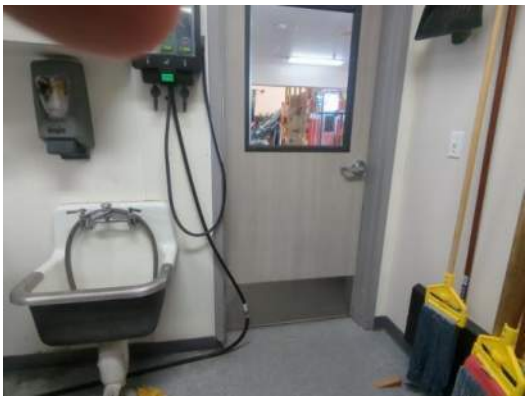
Fire Station 10

Record ID: 623
System: C1030 - INTERIOR DOORS

Item No.: C1030.90.003
Floor/Room: 1st Floor / Laundry
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $930
Deficiency Description: *Metal door frames are in fair to poor condition.*

Description of Work: *Repair and refinish the metal door frames.*

Comments:



Record ID: 624
System: C2010 - WALL FINISHES

Item No.: C2010.70.001
Floor/Room: 1st Floor / Laundry
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 5/SF
Total Deficiency Cost: $130
Deficiency Description: *Painted gypsum wallboard is showing signs of wear.*

Description of Work: *Patch and paint the gypsum wallboard.*

Comments:

Record ID: 625
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.005
Floor/Room: 2nd Floor / Hallway
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $7,680
Deficiency Description: *The existing casework is in need of refurbishment.*

Description of Work: *Repair, refurbish, and refinish the existing wood casework and counters.*

Comments:

Fire Station 10

Record ID: 626
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.005
Floor/Room: 2nd Floor / Kitchen
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $7,680
Deficiency Description: *The existing casework is in need of refurbishment.*

Description of Work: *Repair, refurbish, and refinish the existing wood casework and counters.*

Comments:

Record ID: 627
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.007
Floor/Room: 2nd Floor / Dorm Room 2
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $6,000
Deficiency Description: *Damaged plastic laminate on door edge.*

Description of Work: *Refurbish/repair wood door.*

Comments:

Record ID: 642
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION

Item No.: D5020.30.1001
Floor/Room: 1st / Community
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $9,440
Deficiency Description: *The 100A (20 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.*

Description of Work: *Replace the existing panelboard with a new panelboard.*

Comments:

Fire Station 10

Record ID: 643
System: D5030 - GENERAL PURPOSE ELECTRICAL POWER
Item No.: D5030.50.008
Floor/Room: 1st / Meeting
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $110
Deficiency Description: *A 20A duplex receptacle, 120V, grounded, is damaged and should be replaced.*
Description of Work: *Replace the damaged receptacle with a new receptacle.*
Comments:

Record ID: 644
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1001
Floor/Room: 1st / Apparatus
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $9,440
Deficiency Description: *The 100A (20 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing panelboard with a new panelboard.*
Comments:

Record ID: 645
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.10.302
Floor/Room: 1st / Apparatus
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $20,360
Deficiency Description: *The 400A metered main switchboard (3P, 120/208) is approaching the end of its expected useful life.*
Description of Work: *Replace the existing metered main switchboard with a new metered main switchboard.*
Comments:

Fire Station 10

Record ID: 712
System: G2020 - PARKING LOTS

Item No.: G2020.70.015
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 7/EA
Total Deficiency Cost: $88,650
Deficiency Description: *Exterior lighting: Pole and pole mounted fixture is in poor condition.*

Description of Work: *Demolish existing pole and pole mounted fixture and Install/ replace with new.*

Comments:

Record ID: 713
System: D5040 - LIGHTING

Item No.: D5040.50.304
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 13/EA
Total Deficiency Cost: $19,860
Deficiency Description: *The wall pack is approaching the end of its useful life and should be replaced.*

Description of Work: *Replace the existing lighting fixture with a new lighting fixture.*

Comments:

Record ID: 715
System: D5040 - LIGHTING

Item No.: D5040.50.009
Floor/Room: All / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 8,500/SF
Total Deficiency Cost: $474,910
Deficiency Description: *Interior lighting systems are at or are approaching the end of their expected useful lives.*

Description of Work: *Replace the existing interior lighting systems and associated wiring devices, switches and controls.*

Comments:

Fire Station 10

Record ID: 717
System: D5030 - GENERAL PURPOSE ELECTRICAL POWER
Item No.: D5030.50.011
Floor/Room: Site / -
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 10/EA
Total Deficiency Cost: $1,750
Deficiency Description: *Weatherproof receptacles are damaged and should be replaced.*
Description of Work: *Replace the existing receptacle with a weatherproof receptacle,*
Comments:

Record ID: 718
System: D5020 - ELECTRICAL SERVICE AND DISTRIBUTION
Item No.: D5020.30.1002
Floor/Room: 1st / Apparatus
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $21,000
Deficiency Description: *The 225A (42 ckts, 120/240V, 3P) panelboard is approaching the end of its expected useful life.*
Description of Work: *Replace the existing panelboard with a new panelboard.*
Comments: *Missing screws.*

Record ID: 719
System: D7050 - DETECTION AND ALARM
Item No.: D7050.10.018
Floor/Room: All / Various
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 30/EA
Total Deficiency Cost: $39,660
Deficiency Description: *The fire alarm field devices are at the end of its expected useful life.*
Description of Work: *Replace the existing devices.*
Comments:

Fire Station 10

Record ID: 720
System: D5010 - FACILITY POWER GENERATION

Item No.: D5010.70.007
Floor/Room: 1st / Apparatus
Priority: Immediate (0-1 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $28,970
Deficiency Description: *The 400A 3-pole automatic transfer switch (ATS) is approaching the end of its expected useful life.*

Description of Work: *Replace the existing 3-pole ATS with a new 3-pole ATS.*

Comments:

Record ID: 721
System: D5010 - FACILITY POWER GENERATION

Item No.: D5010.30.003
Floor/Room: Site / -
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 20,000/W
Total Deficiency Cost: $814,480
Deficiency Description: *The ground mouted photovoltaic power system is in approaching the end of its useful life.*

Description of Work: *Replace the existing photovoltaic power system and with a new one.*

Comments: *108 panels*

Record ID: 839
System: B2010 - EXTERIOR WALLS

Item No.: B2010.10.003
Floor/Room: 1st Floor / Exterior
Priority: Necessary - Long Term (3-4 Years)
Quantity/Unit of Measure: 50/SF
Total Deficiency Cost: $1,480
Deficiency Description: *Wood decay on exterior siding.*

Description of Work: *Replace the existing wood siding. Place a new siding over building paper and plywood sheathing.*

Comments:

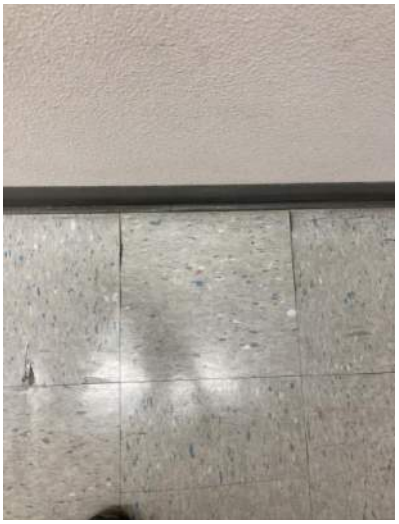
Fire Station 10

Record ID: 849
System: C2030 - FLOORING

Item No.: C2030.50.001
Floor/Room: 1st Floor / Hallway
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 200/SF
Total Deficiency Cost: $5,770
Deficiency Description: *Vinyl composition tile is approaching the end of its useful life.*

Description of Work: *Remove the existing vinyl composition tile and replace.*

Comments: *Evident subgrade water intrusion in the slab on grade with staining of vinyl composition tile joints and some loose tiles.*



Record ID: 850
System: C1090 - INTERIOR SPECIALTIES

Item No.: C1090.25.001
Floor/Room: 1st Floor / Mens RR
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $4,590
Deficiency Description: *Corroding on the base of partition in the mens restroom.*

Description of Work: *Replace the toilet partitions.*

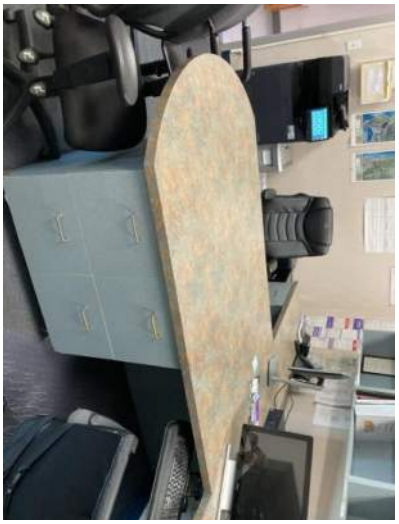
Comments:

Record ID: 851
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.001
Floor/Room: 1st Floor / Office
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $1,540
Deficiency Description: *Plastic laminate countertops are at or are approaching the end of their useful life.*

Description of Work: *Repair or replace plastic laminate countertops.*

Comments:



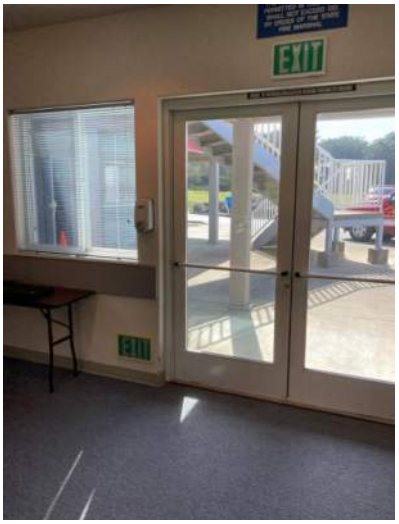
Fire Station 10

Record ID: 852
System: C2030 - FLOORING

Item No.: C2030.90.001
Floor/Room: 1st Floor / Conference
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 40/LF
Total Deficiency Cost: $740
Deficiency Description: *6" Vinyl wall base is approaching the end of its useful life.*

Description of Work: *Replace the vinyl wall base.*

Comments:



Record ID: 853
System: C2030 - FLOORING

Item No.: C2030.75.001
Floor/Room: 1st Floor / Chief's office
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 8/SF
Total Deficiency Cost: $230
Deficiency Description: *Carpet tile is damaged.*

Description of Work: *Replace carpet tile.*

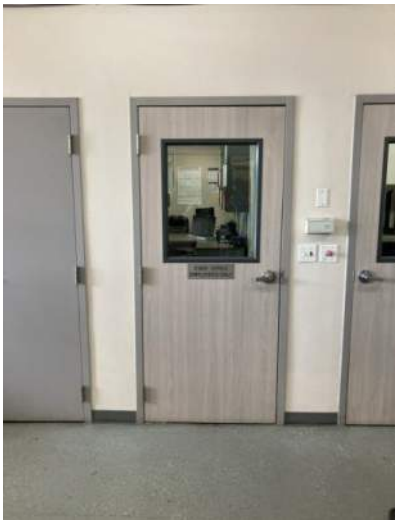
Comments:

Record ID: 854
System: C2030 - FLOORING

Item No.: C2030.75.003
Floor/Room: 1st Floor / App bay
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 3/LF
Total Deficiency Cost: $100
Deficiency Description: *Rubber transition strip / carpet threshold is deteriorating.*

Description of Work: *Remove and replace rubber strip.*

Comments:



Fire Station 10

Record ID: 855
System: C2030 - FLOORING

Item No.: C2030.10.002
Floor/Room: 1st Floor / App bay
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 400/SF
Total Deficiency Cost: $23,030
Deficiency Description: *Epoxy is approaching the end of its useful life.*

Description of Work: *Remove the existing epoxy and replace.*

Comments:

Record ID: 860
System: C2010 - WALL FINISHES

Item No.: C2010.70.001
Floor/Room: 2nd Floor / Living quarters hallway closet
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/SF
Total Deficiency Cost: $230
Deficiency Description: *Painted gypsum wallboard is showing signs of wear.*

Description of Work: *Patch and paint the gypsum wallboard.*

Comments:

Record ID: 861
System: C1030 - INTERIOR DOORS

Item No.: C1030.10.008
Floor/Room: 2nd Floor / -
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 3/EA
Total Deficiency Cost: $3,450
Deficiency Description: *Interior wood door is in visual need of refurbishment.*

Description of Work: *Refurbish and restain the wood door.*

Comments:

Fire Station 10

Record ID: 862
System: E2010 - FIXED FURNISHINGS

Item No.: E2010.30.001
Floor/Room: 2nd Floor / Living quarter restroom
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 6/LF
Total Deficiency Cost: $910
Deficiency Description: *Plastic laminate countertops are at or are approaching the end of their useful life.*

Description of Work: *Repair or replace plastic laminate countertops.*

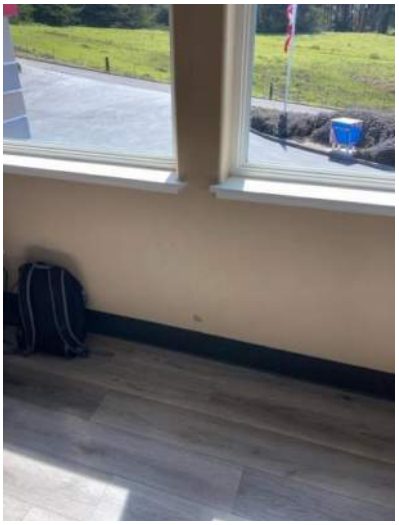
Comments:

Record ID: 865
System: C2010 - WALL FINISHES

Item No.: C2010.70.T05
Floor/Room: 2nd Floor / Day room
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 50/SF
Total Deficiency Cost: $1,370
Deficiency Description: *Wall paint is showing signs of wear.*

Description of Work: *Repaint walls.*

Comments:



Record ID: 866
System: B2050 - EXTERIOR DOORS AND GRILLES

Item No.: B2050.10.006
Floor/Room: 2nd Floor / Balcony
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 1/EA
Total Deficiency Cost: $8,410
Deficiency Description: *Exterior steel entrance door, frame and hardware is approaching the end of its useful life.*

Description of Work: *Replace steel door, frame, and hardware.*

Comments:

Fire Station 10

Record ID: 867
System: A4010 - STANDARD SLABS-ON-GRADE

Item No.: A4010.10.001
Floor/Room: 2nd Floor / Balcony
Priority: Potential - Long Term (4-5 Years)
Quantity/Unit of Measure: 10/LF
Total Deficiency Cost: $270
Deficiency Description: *Excessive cracks were detected in concrete patio deck.*

Description of Work: *Fill the patio deck cracks with sealant.*

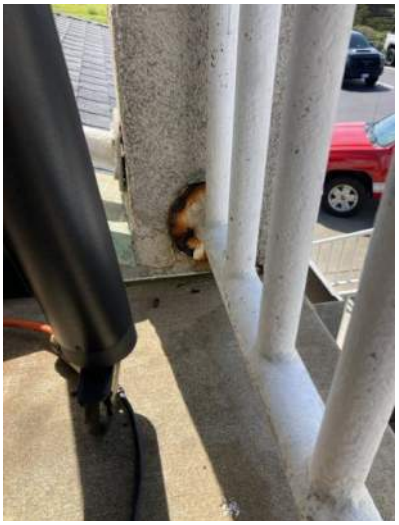
Comments:

Record ID: 868
System: B2080 - EXTERIOR WALL APPURTENANCES

Item No.: B2080.50.004
Floor/Room: 2nd Floor / Balcony
Priority: Crucial (1-2 Years)
Quantity/Unit of Measure: 15/LF
Total Deficiency Cost: $6,360
Deficiency Description: *Guardrail is showing signs of corrosion.*

Description of Work: *Repair/replace handrails/guardrails.*

Comments:



KITCHELL

2450 VENTURE OAKS WAY,
SUITE 500
SACRAMENTO, CA 95833
WWW.KITCHELL.COM

SONOMA COUNTY FIRE DISTRICT

SHAH KAWASAKI ARCHITECTS

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