

State of Nevada
Department of Corrections
Southern Desert Correctional Center
Facility Condition Analysis

SDCC HOUSING UNIT #8

20825 Cold Creek Road
Indian Springs, Nevada

Site Number: 9970
Building Number: 1481

STATE OF NEVADA PUBLIC WORKS DIVISION
FACILITY CONDITION ANALYSIS



Report Printed in December 2016

State of Nevada
Department of Corrections
Southern Desert Correctional Center
Facility Condition Analysis

The Facility Condition Analysis Program was created under the authority found in NRS 341.128. The State Public Works Division develops this report using cost estimates based on contractor pricing which includes materials, labor, location factors and profit and overhead. The costs of project design, management, special testing and inspections, inflation and permitting fees are not included. Cost estimates are derived from the R.S. Means Cost Estimating Guide and from comparable construction costs of projects completed by SPWD project managers.

The deficiencies outlined in this report were noted from a visual survey. This report does not address routine maintenance needs. Recommended projects do not include telecommunications, furniture, window treatments, space change, program issues, or costs that could not be identified or determined from the survey and available building information. If there are buildings without projects listed, this indicates that only routine maintenance needs were found. This report considers probable facility needs for a 10 year planning cycle.

This report is not a guarantee of funding and should not be used for budgeting purposes. This report is a planning level document for agencies and the State Public Works Division to assess the needs of the Building and/or Site and to help support future requests for ADA upgrades / renovations, Capital Improvement Projects and maintenance. The final scope and estimate of any budget request should be developed by a qualified individual. Actual project costs will vary from those proposed in this report when the final scope and budget are developed.

Establishing a Facility Condition Needs Index (FCNI) for each building

The FCA reports identify maintenance items and establish construction cost estimates. These costs are summarized at the end of the report and noted as construction costs per square foot. A FCNI is commonly used by facility managers to make a judgment whether to recommend whole replacement of facilities, rather than expending resources on major repairs and improvements. The FCNI is a ratio between the proposed facility upgrade costs and facility replacement costs (FRC). Those buildings with indices greater than .50 or 50% are recommended to be considered for complete replacement.

Class Definitions

PRIORITY CLASS 1 - Currently Critical (Immediate to Two Years)

Projects in this category require immediate action to return a facility to normal operation, stop accelerated deterioration, correct a fire/life safety hazard, or correct an ADA requirement.

PRIORITY CLASS 2 - Necessary - Not Yet Critical (Two to Four Years)

Projects in this category include conditions requiring appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

PRIORITY CLASS 3 - (Four to Ten Years)

Projects in this category include items that represent a sensible improvement to existing conditions. These items are not required for the most basic function of a facility; however, Priority 3 projects will either improve overall usability and/or reduce long-term maintenance.

Building Number: 1481

Facility Condition Needs Index Report

<u>Index #</u>	<u>Building Name</u>	<u>City</u>	<u>Survey Date</u>	<u>Cost to Repair</u>	<u>Cost to Replace</u>	<u>FCNI</u>
1481	SDCC HOUSING UNIT 8	Indian Springs	12/13/2016	\$5,867,052	\$11,200,000	52%
Report Totals.....:				\$5,867,052	\$11,200,000	52%

**SDCC HOUSING UNIT 8
BUILDING REPORT**

Housing Unit 8 was built in 1988 and is a concrete masonry unit and steel structure on a concrete slab-on-grade foundation. The exterior walls are covered by a painted stucco system and the roofing is a single-ply PVC from Sarnafil. This building has 200 cells, each with a stainless steel combination toilet and lavatory unit, showers and a central guard station. This building has a stand alone HVAC system, fire alarms, and fire sprinklers. This housing unit was utilized as a segregation unit at the time of the survey.

PRIORITY CLASS 1 PROJECTS **Total Construction Cost for Priority 1 Projects: \$4,754,004**
Currently Critical **Immediate to Two Years**

PROVIDE CLEARANCE AT ELECTRICAL PANELS **Project Index #: 1481ELE2**
Construction cost: \$5,000

The electrical panel in the building does not have proper floor space clearance. The 2012 IFC Section 605.3 states that, "A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment. No storage of any materials shall be located within the designated working space." The electrical room is in the shape of a triangle and the electrical panel is located in one of the corners of the room. This project would move the electrical panel in the electrical room to provide adequate working space per IFC.

VIDEO SECURITY SYSTEM UPGRADE **Project Index #: 1481SEC2**
Construction cost: \$250,000

The video security system is outdated and some of the cameras do not function consistently. This project addresses replacement of the cameras and controls in the building with all digital equipment as well as sufficient storage capacity. This project or a portion thereof was previously recommended in the FCA report dated 12/01/2001, 04/03/2007 and 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

EXTERIOR FINISHES **Project Index #: 1481EXT2**
Construction cost: \$320,000

It is important to maintain the finish, weather resistance, and appearance of the building. This project would provide funding to protect the exterior of the building excluding the roof. Included in the cost is repairing damaged areas of stucco, power washing, priming and painting and caulking of the windows, flashing, fixtures and all other penetrations. It is recommended that the building be repaired and painted in the next year and that this project be scheduled on a cyclical basis to maintain the integrity of the structure.

This project or a portion thereof was previously recommended in the FCA report dated 04/03/2007 and 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

CELL DOORS, LOCKS AND CONTROLS REPLACEMENT **Project Index #: 1481SEC3**
Construction cost: \$1,600,000

Housing Unit 8 was constructed in 1988. The cell doors, locks and controls are original to the building and have been problematic due to inmate abuse and age. This project would provide for installing new cell doors, locks and controls. A total of 200 doors were used for this estimate. Removal and disposal of the existing equipment is included in this estimate.

This project or a portion thereof was previously recommended in the FCA report dated 12/01/2001, 04/03/2007 and 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481HVA1
Construction cost: \$260,000

HVAC EQUIPMENT REPLACEMENT

There are 4 rooftop packaged HVAC units that are original to the building and are not energy efficient. The packaged HVAC units have been cannibalized, the heat pump systems have been removed, the air conditioning has been converted to R-22 and the heating has been converted to electric heat strip. The packaged HVAC units have reached the end of their expected and useful life. This project would provide for the installation of three new 20 ton and one new 4 ton packaged HVAC units. Also included in this estimate is new curb adapters, roofing modifications, 100 feet of new condensate line, crane and rigging removal and installation and all required connections to utilities. Additional features to include direct drive, economizer and Direct Digital Controls (DDC).

This project or a portion thereof was previously recommended in the FCA report dated 04/03/2007 and 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481PLM1
Construction cost: \$1,800

JANITORS CLOSET REPAIRS

The mop sink in the Janitors Closet has several cracks in the concrete and is leaking. This could lead to mold growth if not addressed. This project would provide for a new fiberglass mop sink and fiberglass reinforced panels (FRP) to be installed on the walls adjacent to the mop sink. The FRP shall extend two feet beyond the edge of the sink and a minimum of 54" above the floor finish.

This project or a portion thereof was previously recommended in the FCA report dated 04/03/2007 and 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481SFT3
Construction cost: \$16,000

EXIT SIGN AND EGRESS LIGHTING UPGRADE

The emergency egress lighting is insufficient and the exit signs do not meet current standards. This project would provide for the purchase and installation of self-illuminated or LED style exit signs with battery-backed internal systems as well as emergency egress lighting to provide illumination along the egress route. IBC 2012 Chapter 10 was referenced for this project.

This project or a portion thereof was previously recommended in the FCA report dated 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481ELE1
Construction cost: \$800,000

ELECTRICAL UPGRADE

This building was constructed before the high demand for electrical services were needed for security systems, computers and other electrical devices. As time has progressed, the building's electrical demand and system has changed. The electrical panels and receptacles are at their limit. There are also problems with rusting conduits particularly underground conduits. As failures have happened, new conduits have been installed on the interior walls and some are not properly connected. It is recommended the entire system be upgraded to meet the evolving needs of the building and provide safe electrical distribution.

This project or a portion thereof was previously recommended in the FCA report dated 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481PLM2
Construction cost: \$800,000

PLUMBING REPLACEMENT

The plumbing and waste system is older and in poor condition. Most of the system appears to be original to the building and should be scheduled for replacement. The sewer lines are rusted and failing especially underground. This project recommends replacing all of the water and sewer lines in the building. This estimate includes removal and disposal of the existing system as required.

This project or a portion thereof was previously recommended in the FCA report dated 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481PLM4
Construction cost: \$25,000

WATER TREATMENT SYSTEM REPLACEMENT

The existing water softening/ treatment systems in the building are currently not operational. They are original to the building and approaching the end of their lifecycles. The water comes directly into the water treatment system without going into a Pressure Reducing Valve (PRV) first, which causes abnormal wear and tear on the water treatment system. Failure of the water softening/ treatment system causes additional wear and tear on the domestic water supply lines, water heaters and plumbing fixtures. This project would provide for the installation of a PRV (to be installed prior to the water softener/ treatment system) and the replacement of the existing water softeners/ treatment systems with new equipment. This project would also provide for a chemical treatment program to include an updated chemical control system, service and employee training to be provided by a qualified water treatment vendor. The annual maintenance fee charged by the water treatment vendor would be determined after an investigation of the water system is complete. These annual costs are not included in this project cost. For budgeting purposes, a \$12,000 fee is suggested. This project or a portion thereof was previously recommended in the FCA report dated 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481INT1
Construction cost: \$320,000

INTERIOR FINISHES

It is recommended that the interior walls and ceilings be painted at least once in the next year and that this project be scheduled on a cyclical basis to maintain the integrity of the structure. Prior to painting, all surfaces should be repaired and prepped. An epoxy-based paint should be utilized in wet areas for durability. This project or a portion thereof was previously recommended in the FCA report dated 12/01/2001, 04/03/2007 and 4/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481SFT5
Construction cost: \$3,000

PANIC HARDWARE IN ELECTRICAL ROOMS

The electrical room with the uninterruptable power supply contains equipment that meets or exceeds 1,200 amps. It is recommended per the 2012 IBC 1008.1.10 that panic and fire exit hardware be installed. This equipment was not required when the building was constructed in 1988. When a remodel occurs, it is suggested to comply with current code. It is recommended that this project be completed within 1-2 years. The estimate is based on one door that requires panic hardware.

Project Index #: 1481SFT8
Construction cost: \$10,000

SMOKE DETECTOR MAINTENANCE

The smoke detectors in the building should be tested and vacuumed annually or per the manufacturer's instructions. It is recommended to clean the smoke detectors and the mechanical chases where they are located in to ensure they remain in full operational condition. This project should be done after a major remodel or construction project in the building and before the inmates are returned to the cells saving time and cost.

Project Index #: 1481ADA4
Construction cost: \$60,000

TDD INSTALLATION

The Housing Unit is not equipped with a telecommunications device for the deaf (TDD). In order to comply with ADA requirements it is recommended to install a TDD system in the Housing Unit. The 2012 IBC, ICC/ANSI A117.1 - 2009, NRS 338.180 and the most current version of the ADA Standards for Accessible Design were used as a reference for this project.

Project Index #: 1481EXT5
Construction cost: \$15,000

ROOF REPAIRS

The curb and ductwork flashings and sealants around the roof penetrations and in the rain gutters are due for repair. The sealants are dried out and cracking and the flashings are coming loose. Birds on the roof are pecking at the sealants, causing them to prematurely breakdown and to leak. This project would provide funds for repairing the roof. The estimate includes repairing the curb and ductwork flashings, removing the existing sealants and applying new sealants.

Project Index #: 1481EXT6
Construction cost: \$8,704

ROOF DRAIN DOWNSPOUT INSTALLATION

The rain gutters are in need of full length downspouts and extensions. The downspouts currently terminate within inches of the rain gutter with no continuous drainage away from the building. This is causing the water to run down the building and pool next to the foundation and damage the foundation and stucco walls. This project would provide for full length downspouts to grade and extensions to approximately 5'-0" away from the perimeter of the building to prevent pooling and damage to the building.

Project Index #: 1481SFT7
Construction cost: \$40,000

SPRINKLER HEAD REPLACEMENT

The existing fire suppression sprinkler heads are an older style and are susceptible to damage and misuse by the inmates. Inmates have tied strings to them and have broken them in the past. This project recommends that all of the fire sprinkler heads in all cells be removed and replaced with tamper-resistant sprinkler heads.

Project Index #: 1481SIT2
Construction cost: \$9,000

FIRE SUPPRESSION OBSTRUCTION INVESTIGATION

This building has an automatic fire suppression system. Per NFPA 25 Obstruction Investigation and Prevention, an inspection of piping and branch line conditions shall be conducted every 5 years by opening a flushing connection at the end of one main and by removing a sprinkler toward the end of one branch line for the purpose of inspecting for the presence of foreign organic and inorganic material. It is recommended that this project be completed within the next year and that this project be scheduled on a cyclical basis to maintain the integrity of the structure.

Project Index #: 1481ADA3
Construction cost: \$3,000

ADA TABLE UPGRADE

Per the United States Access Board and ICC ANSI-A117.1-2009, at least 5 percent of the seating spaces shall be, if fixed seating is provided, a loose seat or open space for a wheelchair. This project would provide funding to remove 3 of the fixed seats, which will allow access for wheel chairs.

Project Index #: 1481SFT6
Construction cost: \$5,000

FIRE RATED ELECTRICAL ROOM

NFPA 13 requires a fire sprinkler in electrical rooms or if the electrical room complies within NFPA Section 5-13.11, which allows an exception to installing fire sprinklers in an electrical room, the electrical room shall meet all of the following requirements: the electrical room is dedicated to electrical equipment only; only dry-type electrical equipment is used; equipment is installed in a 2-hour fire rated enclosure including the floor and deck above and includes protection for penetrations; no combustible storage is permitted to be stored in the electrical room; any openings (doors) in the room must be properly fire rated at 90-minutes and must be self-closing and positive latching; any ventilation ductwork which penetrates the 2-hour barrier must be equipped with the appropriate fire dampers, and all penetrations must be properly fire stopped. This project would provide a 2 hour separation or a fire sprinkler to be installed in the electrical room per NFPA.

SHOWER REPAIRS **Project Index #: 1481INT2**
Construction cost: \$127,500

There are seventeen showers in the building that are showing signs of failure. The walls and fixtures should be scheduled for repairs. The walls are constructed of gypsum board covered by fiberglass reinforced panels (FRP). The gypsum board is failing in the wet environment and should be replaced with a cementitious backerboard. This project would provide for removing the gypsum board and replacing it with a more appropriate wall board, such as Hardiboard, covered with new FRP and new fixtures. Removal and disposal of the existing materials is included in the estimate.

ADA SHOWER UPGRADE **Project Index #: 1481ADA2**
Construction cost: \$75,000

This project would provide for three ADA compliant stainless steel shower cabinets to be installed to provide shower facilities for the disabled. Included in this estimate is the installation of three stainless steel ADA compliant shower cabinet units complete with accessible plumbing fixtures, seats, etc. The 2012 IBC, ICC/ANSI A117.1 - 2009, NRS 338.180 and the most current version of the ADA Standards for Accessible Design were used as a reference for this project.

PRIORITY CLASS 2 PROJECTS **Total Construction Cost for Priority 2 Projects: \$868,500**
Necessary - Not Yet Critical Two to Four Years

EXTERIOR DOOR REPLACEMENT **Project Index #: 1481SEC1**
Construction cost: \$36,000

The existing exterior metal doors and frames appear to be original to the building. They are damaged and showing signs of wear and deterioration from constant use and inmate abuse. The window in one of the doors is broken. This project would provide for the removal and replacement of nine new metal door assemblies including frames, locks, hardware and painting. Removal and disposal of the existing doors and painting of the new doors is included in this estimate. This project or a portion thereof was previously recommended in the FCA report dated 12/01/2001, 04/03/2007 and 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

SITE DRAINAGE UPGRADES **Project Index #: 1481SIT1**
Construction cost: \$75,000

The grade does not slope away effectively from the building. Water has pooled against the foundation and over time, this can cause damage to the foundation. It is recommended per IBC 1804.3 Site Grading the ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one vertical in 20 units horizontal (5-percent slope) for a minimum distance of 10 feet (3048 mm) measured perpendicular to the face of the wall. This project would create a 5% slope away from the buildings. Additional drainage swales shall be installed, as needed. It is recommended that the grading be completed within 2-3 years.

EXTERIOR LANDING INSTALLATION **Project Index #: 1481SFT4**
Construction cost: \$5,000

Section 1008.1 of the 2012 IBC describes the requirements for doors including floor elevations and landings. The floor or landing shall be at the same elevation on each side of the door, the exterior landing shall not exceed a 2-percent slope and shall have a length measured in the direction of travel of not less than 44 inches. The landing at the door on the building does not comply with this code and poses a safety hazard. This project would provide for the installation of a compliant landing for the door.

RESTROOM REMODEL **Project Index #: 1481INT3**
Construction cost: \$15,000

The restroom in the control room is original to the building and in overall poor condition. The finishes, fixtures, toilet and exhaust fan are showing signs of wear and deterioration. This project would provide for a complete remodel of the restroom. The removal and disposal of the existing fixtures and finishes is included in this estimate.

Project Index #: 1481PLM5
Construction cost: \$1,500

ISOLATION VALVE INSTALLATION

There are no isolation valves for the individual wings of the building's water lines. There is a main shut off valve for the entire building. By installing isolation valves to the individual wings of the building, this will allow the maintenance staff to do repairs and maintenance to the plumbing without shutting down the entire building. More importantly, a leak in the building can be shut down quickly minimizing damage in an emergency. This estimate provides for 3 ball valves to be installed at each wing of the building.

Project Index #: 1481ENR1
Construction cost: \$256,000

LIGHTING UPGRADE

The existing lighting fixtures are the older fluorescent type, and are not energy efficient. This project will upgrade fixtures to higher efficiency units with a longer life cycle. 5,000K LED lamps, without the ballasts, are suggested and new tombstones (if needed). Occupancy sensors will be installed in low occupancy areas for additional savings. Any electrical wiring upgrades are not included in this estimate.

Project Index #: 1481EXT3
Construction cost: \$480,000

WINDOW REPLACEMENT

The existing windows in this building are of single pane wire mesh construction. Some are broken and all are not energy efficient. This project would provide for the removal and replacement of the windows with new dual pane security rated windows.

This project or a portion thereof was previously recommended in the FCA report dated 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

PRIORITY CLASS 3 PROJECTS

Total Construction Cost for Priority 3 Projects: \$244,548

Long-Term Needs Four to Ten Years

Project Index #: 1481PLM3
Construction cost: \$15,000

WATER HEATER REPLACEMENT

There is one 80 gallon and two 119 gallon electric water heaters in the building. The average life span of a water heater is eight to ten years. With the passage of time and constant use, these units are showing signs of wear and should be scheduled for replacement in the next 5-6 years. It is recommended that three new propane fired water heaters be installed for more efficient use of energy. This estimate includes: 100 feet of gas pipe, fittings, couplers, and labor for installation. Removal and disposal of the existing equipment is included in this estimate.

This project or a portion thereof was previously recommended in the FCA report dated 04/30/2013. It has been amended accordingly to reflect conditions observed during the most recent survey date of 12/13/2016.

Project Index #: 1481EXT4
Construction cost: \$229,548

ROOF REPLACEMENT

The roof on this building was in fair condition at the time of the survey. The statewide roofing program has set the useful life of an average roof at 20 years. The roof warranty expires on 05/20/2017. The temperature fluctuations throughout the year, consistent wind which blows sand and dirt onto the roof membrane, and constant exposure to the sun are contributing factors to wear and deterioration. The current roofing system was installed in 05/20/2002. It is recommended that this building be re-roofed in the next 4-5 years.

State of Nevada / Corrections
SDCC HOUSING UNIT 8
SPWD Facility Condition Analysis - 1481
Survey Date: 12/13/2016

PROJECT CONSTRUCTION COST TOTALS SUMMARY

Priority Class 1:	\$4,754,000
Priority Class 2:	\$868,000
Priority Class 3:	\$245,000
Grand Total:	\$5,867,000
Project Construction Cost per Square Foot:	\$183
Total Facility Replacement Construction Cost:	\$11,200,000
Facility Replacement Construction Cost per Square Foot:	\$350

BUILDING INFORMATION:

Gross Area (square feet):	32,000
Year Constructed:	1988
Exterior Finish 1:	100 % Painted Stucco / EIF
Exterior Finish 2:	%
Number of Levels (Floors):	2
Basement?	NO
IBC Occupancy Type 1:	100 % I-3
IBC Occupancy Type 2:	%
Construction Type:	Concrete Masonry and Steel
IBC Construction Type:	II-B
% Suppressed:	100 %
FCNI:	52%

NOTES:

The deficiencies outlined in this report were noted from a visual survey. The costs do not represent the cost of a complete facility renovation or maintenance needs. Recommended projects do not include telecommunications, furniture, window treatment, space change, program issues, relocation, swing space, or costs that could not be identified or determined from the survey and available building information.

Individual projects and costs noted herein may be impacted by new construction materials or methods, agency projects, and pending or proposed Capital Improvement Projects (CIP).

This report was created under the authority found in NRS 341.128 by the State Public Works Division and should be utilized as a planning level document.

REPORT DEVELOPMENT:

State Public Works Division	515 E. Musser Street, Suite 102	(775) 684-4141 voice
Facilities Condition Analysis	Carson City, Nevada 89701-4263	(775) 684-4142 facsimile



Housing Unit #8 – FCA Building #1481
Description: Damage to exterior finishes.



Housing Unit #8 – FCA Building #1481
Description: Damage to interior finishes.



Housing Unit #8 – FCA Building #1481
Description: 30 year old cell door.



Housing Unit #8 – FCA Building #1481
Description: 30 year old cell door control panel.



Housing Unit #8 – FCA Building #1481
Description: Cracked mop sink and damaged interior finishes.



Housing Unit #8 – FCA Building #1481
Description: Typical shower enclosure.



Housing Unit #8 – FCA Building #1481
Description: Typical sprinkler head in cell.



Housing Unit #8 – FCA Building #1481
Description: Typical roof penetration with deteriorated sealants and punctures in the membrane.



Housing Unit #8 – FCA Building #1481
Description: 30 year old HVAC equipment.



Housing Unit #8 – FCA Building #1481
Description: Typical cell window.



Housing Unit #8 – FCA Building #1481
Description: Rusted electrical conduit in Mechanical Room.



Housing Unit #8 – FCA Building #1481
Description: Rusted electrical conduit in utility chase.



Housing Unit #8 – FCA Building #1481
Description: Typical plumbing chase between cells.



Housing Unit #8 – FCA Building #1481
Description: One of several areas of concrete removal and replacement to access clogged sewer piping.



Housing Unit #8 – FCA Building #1481
Description: Typical lighting and electrical in cells.



Housing Unit #8 – FCA Building #1481
Description: 14 year old single-ply roof membrane.