

City of Cordova Multi-Building Condition Assessment: Parks and Recreation Maintenance Shop

Prepared For:





800 F Street Anchorage, AK 99501

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1. INTRODUCTION

The City of Cordova engaged Coffman Engineers and Burkhart Croft Architects to assess and report on the condition of City-owned buildings and structures to establish a baseline of their current assets and better forecast future needs.

The team performed a multi-discipline condition assessment of thirteen facilities including:

- 1. Bob Korn Memorial Swimming Pool
- 2. Bidarki Recreation Center
- 3. Eyak Skaters Cabin
- 4. Cordova Jr/Sr High School
- 5. Odiak Pond Gazebo and Boardwalk
- 6. Odiak Camper Park Restroom
- 7. Parks and Recreation Maintenance Shop
- 8. City Maintenance Shop
- 9. Ballfield Restroom / Concession Stand
- 10. Cordova Chamber of Commerce
- 11. Hollis Heinrichs Park Restroom
- 12. Flemning Spit Restroom
- 13. Fire Department Sub Station

The team also visited the Prince William Sound Science Center and evaluated the feasibility of relocating the building to a new site.

The team consisted of an architect, cost estimator, civil, structural, mechanical, electrical engineers.

Due to the amount of information and quantity of sites, a separate report has been developed for each facility. This condition assessment report is for the Parks and Recreation Maintenance Shop.

2. EXECUTIVE SUMMARY

The Parks and Recreation Maintenance Shop was evaluated by the team on November 17, 2022. This report provides:

- A description and assessment of the various building components.
- ► A list of deficiencies, ordered by urgency for repair or correction.
- Rough order of magnitude cost estimate for the listed deficiencies, as well as building replacement.
- A routine and preventative maintenance plan.

This building is 12 years old, well-kept, and in good condition. There are some code deficiencies to address, which include moving the fuel tank away from the structure and installing ventilation. Other recommendations focus on ongoing maintenance and safety.

3. PARKS AND RECREATION MAINTENANCE SHOP

3.1. Description and Summary

The Parks and Recreation Maintenance Shop is a pre-engineered building that was constructed in 2010. It is used by Parks and Recreation for general maintenance support and storage. There was a tractor parked inside for warm storage at the time of the site visit. There are work spaces including a walled off wood-working area with a dust collection system. A mezzanine above is used for storage.

3.2. Building Component Assessments

3.2.1. Architectural

3.2.1.1. IBC Code Summary

Model Code Application

This facility was constructed under the *Uniform Building Code* in effect prior to 2000. Since 2000, the *Uniform Building Code* has been replaced by the *International Building Code* (*IBC*) family as the acting model building code in Alaska. Assessment below is based on the 2021 IBC (current version adopted by the State).

There were no issues with either building construction materials or use found during the inspection. While the wood framed mezzanine forces classification into Type V-B Construction, the building area is well below allowable square footage.

Occupancy Groups

Shop Area: All portions of this facility are designated as an "S-2" Storage Occupancy. Storage occupancies are further broken down in S-1 & S-2. S-1 would generally be for vehicular maintenance facilities and storage of flammable goods. From our inspection, the less restrictive S-2 is reasonable for this facility.

Egress System

The existing egress system is adequate in terms of number of exit points, exiting logic, and egress width. There is a single exit door which meets current facilities with a single exit requirements.

3.2.1.2. Sprinkler System Protection

General

No Fire Suppression system is installed in this facility, and there are no requirements for one either.

3.2.1.3. Accessibility / ADA / ANSI A117 Compliance

General

This facility is used by the City of Cordova Parks & Rec Staff. The general nature of this building is to support of abled bodied staff members. No accessibility recommendations are being made for this facility.

3.2.1.4. Building General

This building is a traditional Pre-Engineered Metal Building (PEMB). There is a metal framed structure, clad with uninsulated metal walls, and roof panels. Thermal insulation is batt or fiber insulation, placed between poly or vinyl film. This serves as both the weather and vapor barriers. This building is also outfitted with an uninsulated lean-to attached to the building. It appears this is original to the facility and would have been provided by the manufacture. This building was provided by R&M out of Idaho. The oddity of the facility is the wood framed mezzanine that was added by the City of Cordova presumably. No design documents were available for review. The building is in very good shape considering its age. There were deficiencies present in the facility that need to be addressed, they are as follows:

- There are numerous holes and cuts in the insulation blankets, when exposed, this is an avenue for moisture intrusion. Once the moisture is inside the insulation, it is very difficult to evaluate. Use tape or membrane product to repair the plastic of the insulation blankets.
- There is an active roof leak at the ridge, which extends approximately 8-10 feet. The facility staff was aware of the issue and noted the deficiency as the metal ridge cap. Once repaired, the batt insulation should be inspected for damage and replaced as necessary. The vinyl film should be repaired once the roof leak is repaired. We were not able to inspect the roof. The side of the roof that this is leaking is facing the ocean, wind driven rain may also be another possible path for water intrusion. This should be taken into consideration when evaluating.
- The bathroom was not functional at the time of inspection, see mechanical for specific deficiencies.
- The overhead door jamb is steel and is starting to oxidize due to damage, prep and repaint to avoid further damage.
- There is a 6-inch gap in the mezzanine framing in which could cause injury. The gap should be filled in with additional wood framing before the facility staff returns for the season.



Fig. 1. Typical vapor barrier damage



Fig. 2. Typical vapor barrier damage



Fig. 3. Toilet not operational









Fig. 5. Roof leak, 2nd photo



Fig. 7. Damage at OHD jamb

Fig. 6. Excessive gap at top of stairs



Fig. 8. Damage at OHD jamb

3.2.2. Structural

The Parks & Recreation Shop building is a pre-engineered metal building manufactured by R&M Steel Company of Cadwell, Idaho. The building is a 30-feet wide by 40-feet ling gable frame building with a 10-feet by 40-feet wide outdoor shed roof lean-to on the east side. The building eave height is 16-feet and 13.5-feet at the lean-to. Original construction documents for this facility were available for review.

There is a wood frame mezzanine installed at the end opposite the overhead door (north end) which was not part of the original construction. The mezzanine is supported on post and beams and tightly fitting within the building frame columns and end wall framing. The mezzanine appears to be adequately constructed to support the loads placed upon it, but its lateral resistance against earthquake forces is entirely dependent on the metal building. Pre-engineered metal buildings typically are designed to carry only the design loads imparted on it with little reserved for additional loads such as mezzanines. There is a potential that the addition of the mezzanine could overstress the building frames and end wall in the event of a large seismic event.

There are no structural recommendations for this building other than continued maintenance. The mezzanine poses a potential seismic hazard which could be mitigated by installing plywood shear walls with hold downs along the three outside edges.



Fig. 9. Parks & Rec Shop – South Elevation



Fig. 11. Parks & Rec Mezzanine Loft.



Fig. 10. Parks & Rec Shop - North Elevation



Fig. 12. Parks & Rec Loft Framing

3.2.3. Civil

The Parks and Recreation Maintenance Shop is located on a parcel owned by the City of Cordova, at 311 Orca Inlet Drive. The site consists of a gravel pad with drives and shares a common area

with the City Maintenance Shop. The area around the building is cluttered with storage material and equipment.

The Owner stated that the facility is on City water and sewer service and reported no issues with the services. Exterior utilities were not observed as part of this inspection. A water well casing was found on the northwest side of the building.

Drainage around the building appeared to be adequate with no signs of ponding or runoff against the foundation. Runoff sheet flows away from the structure to surrounding areas.

A storm drain inlet is present on the south side of the building in the middle of the drive area. The fuel tank is located on the east side of the building directly next to the east wall. The fuel tank appears to be in good condition with no evidence of leaks. The tank was measured to be within 5-feet of the exterior wall, which violates code requirements.



Fig. 13. Front of shop facing north



Fig. 14. Fuel tank directly adjacent to building

3.2.4. Mechanical

The shop is heated by a single Toyotomi (Toyo) oil-heater and an oval shaped fuel tank butted up alongside the building. The Toyo heater is installed with the circulation fan cover on the back placed within approximately an inch from a column. The Installation and Operation manual (IOM) indicates that there should be a 4-inch clearance on the back of the unit. Where the heater is currently placed, it does not appear to be a fire hazard; however, according to the IOM the unit should be moved another 3-inches from the wall if possible. The equipment is mid-way through its life and appears to be well maintained and in very good condition. The tank is code-required to be moved 5 feet from the building. There is a placard on the tank indicating the pipe connections on top are not watertight. Currently the tank is under a shed roof and somewhat protected, but if this tank is moved and not replaced, it should continue to be sheltered from precipitation.

There is a dust collection system in a walled-off workspace. It appears to be well-built and in excellent condition.

There was no building-wide ventilation system present in this building. The International Mechanical Code (IMC) requires natural or mechanical ventilation for this building and was required when the building was constructed. There are two options to comply with the code required ventilation. Option 1 is natural ventilation, which requires operable openings to exceed 4% of the building floor area. Opening the overhead door would easily exceed this; however, in cold climates this approach is generally not reasonable and is not recommended in this case, as the overhead door would have to remain open while the building is occupied to meet the intent of the code. Option 2 is to install a ventilation system. In this case, a roof-supported supply fan or Heat Recovery Ventilator (HRV) and ductwork sized for about 900 CFM would be recommended. It should operate with the building lighting circuit so it does not operate when the building is unoccupied. If the building is not occupied continuously during the work week, a simply supply

fan is recommended as the extra cost of an HRV would likely not pay pack for many years. A heating coil would be needed to temper the outside air before entering the fan or HRV. The coil could be electric or hydronic, however since the building does not have a hydronic system, a 19-kilowatt electric coil is recommended.



Fig. 15. Toyotomi heater



Fig. 17. Fuel oil storage tank with fuel filter and isolation valves



Fig. 16. Back of heater



Fig. 18. Dust collection system

3.2.5. Plumbing

Plumbing in this facility includes a single restroom with a urinal, toilet, lavatory, and an under-sink electric water heater. It was reported onsite that the city sewer was connected until a couple of

years ago, when it was discovered that the sewer pipe was not sloped correctly, causing the toilet would back up. There was a lift station on a pallet in the shop during the site visit, which is intended to be installed next summer.

There is an emergency eyewash station located near the restroom and woodshop area. It was functional during the site visit, although the floor drain beneath it will not drain adequately until the lift station is installed.

There is a utility sink with a water filter located in the shop as well.

All equipment appeared to be well maintained an in good condition, with the exception of the drainage issue.



Fig. 19. Lift station awaiting installation after winter



Fig. 20. Emergency eyewash





Fig. 21. Restroom, note water heater under sink. Urinal not pictured, to left of bucket.

Fig. 22. Exterior hose bib, one of two

3.2.6. Fire Protection

As stated above in the Architectural section, this shop is an S-2 occupancy. It should be noted that there are two flammable cabinets located in the shop.

Per Section 903 of the 2021 International Building Code, an automatic sprinkler system is not required.

Per Section 907 of the 2021 International Building Code, a fire alarm system is not required.

There was no readily available information on the materials stored inside these cabinets. This building can be classified as a S-2 occupancy if the following materials do not exceed the quantities listed in the table below.

It is recommended that a placard be placed on the exterior of each cabinet stating the materials contained inside and the maximum allowable quantity allowed per code to be stored inside.

		Group when	Storage		
Material	Class	Maximum is	Solid	Liquid	
		Lyceeded	(Pounds)	(Gallons)	
Elemmobile Coo	Gaseous		NIA	NA	
Flammable Gas	Liquified	Π-2	NA	18	
Elammable Liquid	IA		ΝΔ	30	
	IB and IC	11-2 01 11-3	INA	120	
Flammable liquid, combination (IA, IB, IC)	NA	H2 or H-3	NA	120	
Flammable Solid	NA	H-3	125	NA	



Fig. 23. Two flammable cabinets

3.2.7. Electrical

The facility is served by a 240/120V, single phase, 3-wire, 200A electrical service provided by Cordova Electric Co-Op. The incoming utility service equipment, including current transformer (CT) cabinet, disconnect switch, and meter socket are wall mounted on the front exterior of the building. Distribution for the building is provided via a single 200A, 240/120V single phase

panelboard located in the shop. The panel is in good condition and has a lot of space for additional breakers.

There are no arc flash labels on the electrical panels and equipment. It is recommended that an Arc Flash Risk Assessment be performed on power systems for employee safety and compliance with The Occupational Safety and Health Administration (OSHA) regulations. OSHA requires that employers provide a place of employment which is free from recognized hazards that are likely to cause death or serious physical harm to employees. OSHA also requires that employers employ safety-related work practices to prevent electrical shock or other injuries resulting from direct or indirect electrical contact.

Receptacles are located throughout the shop area and at work benches. All receptacles are mounted above 36-inches, and locations have been coordinated with shop equipment. The staff said that a receptacle is desired for the exterior car port.

Lighting within the shop is from fluorescent strip lights mounted to the ceiling and above work benches. Some of the fixtures have been retrofit with TLED lamps. There are three large square gym lights that were re-purposed from the school and installed in the shop to provide additional lighting. It is desired to replace these three lights with more suitable LED lights for the high ceiling portion of the shop. The existing lighting is useable; however, it could be significantly improved with an upgrade. Lighting is important since the staff is working with a variety of tools and performing a variety of tasks. There is a single combination emergency light/exit sign located above the main entry door.

Exterior lighting is provided by a single twin head incandescent fixture mounted above the main entry door and a light mounted adjacent to the garage door. There is no lighting in the car port or on the back of the building, the staff said that they desire lighting at both of these locations.





Fig. 24. Front elevation with light by door

Fig. 25. Exterior lights



Fig. 26. Exterior car port- no lighting or power



Fig. 27. Interior lighting

3.2.8. Deficiencies and Recommendations

The following list of deficiencies and items requiring maintenance are grouped into four categories: Life Safety, Structural, Code Compliance, and Maintenance or Facility Improvements. A rough order of magnitude cost is included but does not factor into the order in this list. See Appendix C for detailed cost estimate information.

Total building replacement, including demolition of the existing facility is estimated to cost \$1,415,047. The total cost of all recommendations below is \$116,384.

3.2.8.1. Life Safety Recommendations

Some of the recommendations below relate to life safety; however, there are no specific deficiencies warranting immediate action.

3.2.8.2. Phase 1

1. **Fuel Tank Location.** The fuel tank is currently located directly adjacent to building wall. Move the fuel tank 5-feet east to get the required NFPA 30 setback from the structure. Ensure pipe connections are protected from water intrusion (see mechanical section regarding placard on tank: not watertight).

Estimated Cost: \$12,967

2. **Building Ventilation.** Add a 900 CFM supply fan with intake hood, 19-kilowatt electric heating coil, 30-feet of distribution ductwork, and a relief louver with cold air trap and gravity backdraft damper.

Estimated Cost: \$13,691

3. **Roof Leak**. There is an active roof leak. It is at the ridge and extends approximately 8-10 feet. Facility staff was aware of the issue and noted the deficiency as the metal ridge cap. Once repaired, the batt insulation should be inspected for damage and replaced as necessary, vinyl film to be repaired once complete. The side of the roof that the leak is occurring on is facing the ocean, which may cause wind driven rain. This is likely another possible path for water intrusion. This should be taken into consideration when evaluating.

Estimated Cost: \$5,926

Total Cost Phase 1: \$32,600

3.2.8.3. Phase 2

4. **Lift Station.** Install the existing sanitary lift station to provide building drainage. See plumbing section for photo of lift station.

Estimated Cost: \$37,816

5. **Exterior lighting upgrade.** Replace exterior rated light above man door with an LED fixture and add two ceiling mounted exterior rated LED lights in the car port and add one wall mounted exterior rated light to the back side of the building. All new exterior LED lights should have integrated photocells for automatic dusk to dawn operation.

Estimated Cost: \$11,969

6. **Trip Hazard.** There is one area in the mezzanine framing that should be corrected. There is about a 6-inch area that someone could fall into causing injury, this gap should be filled in with additional wood framing for the guard return.

Estimated Cost: \$421

Total Cost Phase 2: \$50,200

3.2.8.4. Phase 3

7. **Vapor Barrier.** There are numerous holes and cuts in the insulation blankets. Left open, this is an avenue for moisture intrusion, once inside it is very difficult to evaluate. Use tape or membrane products to repair the plastic.

Estimated Cost: \$736

8. **Door Corrosion**. The overhead door jamb is steel and is starting to oxidize due to damage. Prep and repaint to avoid further damage.

Estimated Cost: \$664

Total Cost Phase 3: \$1400

3.2.8.5. Phase 4

9. Interior lighting upgrade Replace the three suspended high bay lights in the shop with three surface mounted, wet location listed high bay LED light fixtures. Maintain connection to existing switching for lighting control. Replace all fluorescent lamps in the strip lights with TLED lamps. As a betterment option, replace all interior strip lights with 1'x4' surface mounted vaporlume style (dust light) LED light fixtures. The lighting upgrade would improve lighting levels, reduce maintenance, and reduce energy consumption. It would also improve safety for the staff using tools.

Estimated Cost: \$11,049

10. Add exterior receptacles. Install three new exterior wall mounted receptacles, install one to the front of the building near the electrical service. Install the other two on the wall in the car port. Receptacles shall be 20A, GFCI, weatherproof with weatherproof while in use covers.

Estimated Cost: \$5,198

11. Arc Flash Risk Assessment. Recommend an Arc Flash Risk Assessment is performed on power systems for employee safety and compliance with OSHA regulations. Install arc flash hazard labels to all panels and equipment per NEC 110.16.

Estimated Cost: \$4,963

Total Cost Phase 4: \$21,200

APPENDIX A – EQUIPMENT CONDITION AND LIFE EXPECTANCY

Major HVAC Equipment List					
Equipment	Description	Age (yrs)	Life Expectancy (yrs) ¹	Notes	
Fuel Oil Heater	Toyotomi vented heater, model Laser 742, 40,000 btuh	Unknown	20	Unit appears to be in good condition, likely installed within the last 5 years.	
Electric water heater	Bosch ES 8-1M WIR, point of use electric water heater	Unknown	15	Unit appears to be in good condition.	
Dust Collector	Jet model DC-650, serves shop area	3	25	Unit appears to be in good condition.	
1. Life expectancy is based on the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 2019 Applications					
Handbook, Chapter 38, Table 4: Comparison of Service Life Estimates. These values are based on historical survey data, and are heavily					
dependent o	n maintenance, usage, cycling, and applic	cation, but	form a basis to accomp	pany site observation notes.	

APPENDIX B – ROUTINE MAINTENANCE TASKS

Fan Maintenance (Exhaust, Supply, Return)				
Item No.	Inspection Task	Maintenance Task	Frequency	Recommended Action
	Mechanical			
	Check fan-belt tension, check for belt	Correct tension and sheave		Replace belts and sheaves as needed to ensure
2	wear, and check sheaves for evidence of	alignment	Semiannually	proper operation.
a	improper alignment or evidence of		Semiannuarry	
	wear.			
	Check variable-frequency drive for	Correct as needed. Clean		Repair, replace, or restore as needed to ensure
ь	proper operation.	housing and tighten	Semiannually	proper operation.
-		connections as needed.	ocimaniaany	
		Clean or replace air filter.		
с	Check control system and devices for	Clean, lubricate, adjust	Semiannually	Repair or replace components as needed to ensure
-	evidence of improper operation.		,	proper operation.
	Check fan drive for problems due to	Adjust and lubricate as		Repair or replace components as needed to ensure
d	poor alignment or poor bearing seating.	necessary	Annually	proper operation.
е	Check fan blades and fan housing.	Clean as needed.	Annually	Repair or replace components as needed to ensure
				proper operation.
t	Assess field-serviceable bearings.	Lubricate as necessary.	Annually	Replace as needed.
g	Check control box for dirt, debris, and/or	Clean and tighten electrical	Annually	Repair, replace, or restore as needed to ensure
	loose terminations.	connections as needed.		proper operation.
h	Check motor contractor for pitting or	Clean and tighten electrical	Annually	Repair, replace, or restore as needed to ensure
	other signs of damage.	connections as needed.		proper operation.
	Check Integrity of all panels on	Replace fasteners as needed		Repair or replace damaged panels.
1	equipment.	to ensure proper integrity	Annually	
		and fit/finish of equipment.		
	Inspect exposed ductwork and external	Record location of damage.		Repair or replace as needed.
j	piping for insulation and vapor barrier		Annually	
	Integrity.			Providence and the second second
k	Check damper for condition, setting, and	Adjust and lubricate as	Annually	Repair or replace as needed to ensure proper
	operation.	necessary		operation.
1	Inspect flexible connections.	clean as needed.	Annually	Repair, replace, or restore as needed to ensure
-			l '	proper operation.

Terminal Heating Units Maintenance				
Item No.	Inspection Task	Maintenance Task	Frequency	Recommended Action
	Mechanical			
а	Check fans, wiring, and vent systems for damage.	Correct as needed. Clean housing, and tighten connection as needed. Clean or replace air filter.	Semiannually	Repair or replace.
b	Check and adjust manifold gas pressure.	Adjust as needed to restore proper flow.	Semiannually	Repair or replace.
с	Inspect all gas connections for proper fitting.	Adjust as needed.	Semiannually	Repair or replace.
d	Inspect that the motor shaft turns correctly and power connections.	Adjust as needed.	Annually	Repair or replace.
е	Examine thermostats for correct temperature settings and connectivity.	Verify that unit kicks on with temperature adjustment.	Annually	Repair or replace.
f	Inspect burner tubes.	Correct as needed. Clean housing, and tighten connection as needed. Clean or replace air filter.	Annually	Repair or replace.
g	Verify venting system is free of obstructions.	Clean as needed.	Annually	Repair or replace.
h	Inspect for condensate leaks.	Verify lines do not have any damage.	Annually	Repair or replace.
i	Check for signs of water stain or rusting.	Note any stains or rusting.	Annually	Repair or replace.

Water Heater Maintenance				
Item No.	Inspection Task	Maintenance Task	Frequency	Recommended Action
	Mechanical			
а	Check water pressure.	Verify and adjust for proper pressure.	Monthly	Repair or replace.
b	Check control water pressure.	Verify and adjust for proper pressure.	Monthly	Repair or replace.
с	Check thermal expansion tank.	Verify tank is working correctly, pressurized, and no damage.	Monthly	Repair or replace.
d	Inspect T&P relief valve.	Inspect and verify that valve is functioning properly.	Quarterly	Repair or replace.
e	Drain and flush tank.	Drain tank and verify water is clean. If milky, drain entire tank and refill.	Annually	Repair or replace.
f	Check anode rod.	Inspect and verify that anode rod is function and doesn't have significant damage/wear.	Annually	Repair or replace.

Site Maintenance					
Item No.	tem No. Inspection Task Maintenance Task Frequency Recommended Action				
Civil	Civil				
а	Check sediment in storm drain manholes	Clean out sediment in manhole basins	Biannual	Pump out sediment with vac truck.	

Electrical Equipment Maintenance					
Item No.	Inspection Task	Maintenance Task	Frequency	Recommended Action	Reference
	Electrical	_			
а	Panelboard enclosure inspection	Visual inspection	Semiannually	Clean and verify proper operation. Repair or replace.	NFPA 70B:15.2.6 thru 15.2.7.2
b	Molded case circuit breaker inspection	Visual inspection	every 3 years	Repair or replace.	NFPA 70B:17.7 thru 17.11
с	Molded case circuit breaker inspection	electrical test	3-5 years	Repair or replace.	NFPA 70B: 11.10.5
d	Rotating equipment	Visual mechanical and electrical inspection, cleaning and testing	Annually	Repair or replace.	NFPA 70B: 26.7, 8.7, 25.3, 25.4, 25.6
e	wiring devices, receptacles, snap switche, attachment plugs, connector bodies	inspection, operational check	monthly and when used	Repair or replace.	NFPA 70B: 24.2.1 thru 24.6, 24.3.1, 24.3.2. 24.5.2 thru 24.5.4
f	Power cables, inspection	Visual inspection	Annually	Repair or replace.	NFPA 70B: 19.2
g	Power cables, testing	electrical testing	every 3 years	Repair or replace.	NFPA 70B: 19.5, 11.9.2.4
h	Light fixtures, inspection and cleaning	cleaning, inspection, testing	Annually	clean fixture lenses, test lamps and ballasts, relamp	NFPA 70B: 23
i	Emergency lighting monthly test and inspection	test lighting, inspection, repair	monthly	30 second test emergency lighting every 30 days for required illumination, repar or replace. Maintain records of testing.	NFPA 101
j	Emergency lighting yearly test and inspection	test lighting, inspection, repair	Annually	90 mimute test emergency lighting annually for required illumination to simulate long term emergency, repar or replace. Maintain records of testing.	NFPA 101

APPENDIX C – COST ESTIMATE

MULTI-BUILDING CONDITION ASSESSMENTS CONSTRUCTION COST ESTIMATE (REVISION 1)

CITY OF CORDOVA PARKS AND RECREATION MAINTENANCE SHOP CORDOVA, ALASKA

PREPARED FOR:

Coffman Engineering 800 F Street Anchorage, Alaska 99501

February 28, 2023



NOTES REGARDING THE PREPARATION OF THIS ESTIMATE

DRAWINGS AND DOCUMENTS

Level of Documents:	Condition assessment narrative
Date:	Undated
Provided By:	Coffman Engineers of Anchorage, Alaska

RATES

Pricing is based on current material, equipment and freight costs.

Labor Rates:	A.S. Title 36 working 60 hours per week
Premium Time:	16.70% (included with unit rates)
Subcontractor Mark-Up:	35.00%
General Requirements,	
Overhead, and Profit:	45.00%
Estimator's Contingency:	30.00%
Unique Market Risk:	5.00%
Escalation to Summer 2024	
at 7.91% per Annum (16 Months):	10.55%
A/E Design Fee:	12.00%

BIDDING ASSUMPTIONS

Contract:	Standard construction contract without restrictive bidding clauses
Bidding Situation:	Competitive bid assumed
Start of Construction:	Summer 2024
Note:	Quantities, qualities, and conditions are assumed when not directly
	provided in narrative, or obvious from available drawings.

EXCLUDED COSTS

- 1. Administrative and management costs
- 2. Furniture, furnishings and equipment (except those specifically included)
- 3. Remediation of contaminated soils or abatement of any hazardous materials

NOTES REGARDING THE PREPARATION OF THIS ESTIMATE (Continued)

GENERAL

When included in HMS Inc.'s scope of services, opinions or estimates of probable construction costs are prepared on the basis of HMS Inc.'s experience and qualifications and represent HMS Inc.'s judgment as a professional generally familiar with the industry. However, since HMS Inc. has no control over the cost of labor, materials, equipment or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, HMS Inc. cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from HMS Inc.'s opinions or estimates of probable construction cost.

This estimate assumes escalation based on a 12-month rolling average of the U.S. Consumer Price Index. HMS Inc. will continue to monitor this, as well as other international, domestic and local events, and the resulting construction climate, and will adjust costs and contingencies as deemed appropriate.

Due to the lingering effects of the COVID-19 pandemic on the global supply chain and labor market, as well as ongoing geopolitical impacts to energy prices, HMS Inc. has included an additional contingency titled 'Unique Market Risk'. This amount provided for in the estimate will be adjusted as the situation continues to change and the effect on construction pricing becomes better understood.

CONDITION ASSESSMENT GENERAL COST SUMMARY

TOTAL BUILDING REPLACEMENT	\$ 1,415,047
DEFICIENCIES	116,384

CONDITION ASSESSMENT COST SUMMARY

	Total
PHASE 1	
Deficiency 1 - Fuel Tank	\$ 12,967
Deficiency 2 - Building Ventilation	13,691
Deficiency 3 - Roof Leak	5,926
PHASE 2	
Deficiency 4 - Lift Station	37,816
Deficiency 5 - Exterior Lights	11,969
Deficiency 6 - Trip Hazard	421
PHASE 3	
Deficiency 7 - House Tape	736
Deficiency 8 - Door Corrosion	664
PHASE 4	
Deficiency 9 - Interior Lights	11,049
Deficiency 10 - Exterior Receptacles	5,198
Deficiency 11 - Arc Flash Risk Assessment	4,963
Deficiency 12 - Repair Loft Shear Walls	10,984
TOTAL ESTIMATED CONSTRUCTION COST:	\$ 116,384

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TOTAL BUILDING REPLACEMENT	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Demolish maintenance building	21,600	CF	0.45	9,720
New maintenance building	1,200	SF	300.00	360,000
Site work as needed to support new maintenance building	1	LOT	45000.00	45,000
Load and haul debris	20	LDS	650.00	13,000
SUBTOTAL:				\$ 427,720
Subcontractor's Overhead and Profit on Material and Labor	35.00%			149,702
SUBTOTAL:				\$ 577,422
General Requirements, Overhead, and Profit	45.00%			259,840
Estimator's Contingency	30.00%			251,179
Unique Market Risk	5.00%			54,422
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			120,572
A/E Design Fee	12.00%			151,612

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PHASE 1				TOTAL
Deficiency 1 - Fuel Tank	QUANTITY	UNIT	UNIT RATE \$	\$
Unhook fuel tank	1	LOT	160.00	160
Move fuel tank five feet away from building (minimum)	1	LOT	160.00	160
3/4" diameter black steel pipe and fittings	10	LF	21.50	215
CANOPY ROOF				
2"x12" canopy roof framing	52	LF	7.64	397
6"x6" post, treated	26	VLF	12.35	321
Simpson connections, strapping, etc.	1	LOT	650.00	650
Canopy roof assembly (assumes 6'0"x8'0" roof)	48	SF	42.00	2,016
SUBTOTAL:				\$ 3,919
Subcontractor's Overhead and Profit on Material and Labor	35.00%			1,372
SUBTOTAL:				\$ 5,291
General Requirements, Overhead, and Profit	45.00%			2,381
Estimator's Contingency	30.00%			2,302
Unique Market Risk	5.00%			499
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			1,105
A/E Design Fee	12.00%			1,389

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PHASE 1	QUANTITY			τοται
Deficiency 2 - Building Ventilation	QUANTITY	UNIT	S S S S S S S S S S S S S S S S S S S	\$
900 CFM supply fan	1	EA	595.00	595
Intake hood	1	EA	225.00	225
19kW heating coil	1	EA	750.00	750
Ductwork and hangers	110	LBS	10.20	1,122
Duct insulation	21	SF	5.05	106
Seal building penetration	1	LOT	250.00	250
Duct mounted diffuser	3	EA	155.00	465
Conduit and conductor (allowance)	20	LF	31.25	625
SUBTOTAL:				\$ 4,138
Subcontractor's Overhead and Profit on Material and Labor	35.00%			1,448
SUBTOTAL:				\$ 5,586
General Requirements, Overhead, and Profit	45.00%			2,514
Estimator's Contingency	30.00%			2,430
Unique Market Risk	5.00%			527
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			1,167
A/E Design Fee	12.00%			1,467

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PHASE 1				
Deficiency 3 - Roof Leak	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Demolish ridge cap	40	LF	2.00	80
Demolish vapor barrier	60	SF	0.40	24
Demolish batt insulation	60	SF	0.25	15
New roof ridge	40	LF	15.45	618
Caulking and sealants	80	LF	2.40	192
New vapor barrier	60	SF	1.25	75
New batt insulation	60	SF	2.29	137
Load and haul debris	1	LD	650.00	650
SUBTOTAL:				\$ 1,791
Subcontractor's Overhead and Profit on Material and Labor	35.00%			627
SUBTOTAL:				\$ 2,418
General Requirements, Overhead, and Profit	45.00%			1,088
Estimator's Contingency	30.00%			1,052
Unique Market Risk	5.00%			228
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			505
A/E Design Fee	12.00%			635

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PHASE 2 Deficiency 4 - Lift Station	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Lift station (OFCI)	1	EA	750.00	750
Saw cut concrete	16	LF	12.50	200
Break up and remove concrete	16	SF	5.50	88
Excavate for lift station	2	CY	150.00	300
Concrete doweling	16	EA	41.00	656
Vapor barrier	16	SF	0.40	6
Infill concrete	230	SF	41.00	9,430
SUBTOTAL:				\$ 11,430
Subcontractor's Overhead and Profit on Material and Labor	35.00%			4,001
SUBTOTAL:				\$ 15,431
General Requirements, Overhead, and Profit	45.00%			6,944
Estimator's Contingency	30.00%			6,713
Unique Market Risk	5.00%			1,454
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			3,222
A/E Design Fee	12.00%			4,052

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PHASE 2				70744
Deficiency 5 - Exterior Lights	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Demolish fixture	1	EA	70.00	70
Exterior LED with photocell, wall mounted	2	EA	510.00	1,020
Exterior LED with photocell, ceiling mounted	2	EA	675.00	1,350
Rigid steel conduit and conductor	80	LF	14.72	1,178
SUBTOTAL:				\$ 3,618
Subcontractor's Overhead and Profit on Material and Labor	35.00%			1,266
SUBTOTAL:				\$ 4,884
General Requirements, Overhead, and Profit	45.00%			2,198
Estimator's Contingency	30.00%			2,125
Unique Market Risk	5.00%			460
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			1,020
A/E Design Fee	12.00%			1,282

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PHASE 2 Deficiency 6 - Trip Hazard	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
2"x8" lumber	12	LF	5.80	70
Lag screw	6	EA	17.00	102
SUBTOTAL:				\$ 172
General Requirements, Overhead, and Profit	45.00%			77
Estimator's Contingency	30.00%			75
Unique Market Risk	5.00%			16
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			36
A/E Design Fee	12.00%			45

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PHASE 3				TOTAL
Deficiency 7 - House Tape	QUANTITY	UNIT	UNIT RATE \$	\$
Tape holes (allowance)	300	LF	1.00	300
SUBTOTAL:				\$ 300
General Requirements, Overhead, and Profit	45.00%			135
Estimator's Contingency	30.00%			131
Unique Market Risk	5.00%			28
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			63
A/E Design Fee	12.00%			79

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PHASE 3 Deficiency 8 - Door Corrosion	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
			-	
Sand and prep overhead door frame	40	SF	4.50	180
Paint overhead door frame	40	SF	2.25	90
SUBTOTAL:				\$ 270
General Requirements, Overhead, and Profit	45.00%			122
Estimator's Contingency	30.00%			118
Unique Market Risk	5.00%			26
Escalation to Summer 2024 at 7.01% per Annum				
(16 Months)	10.55%			57
A/E Design Fee	12.00%			71

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PHASE 4	QUANTITY	UNIT	UNIT RATE	TOTAL
Deficiency 9 - Interior Lights			\$	\$
Allowance for scaffolding	1	LOT	1500.00	1,500
Demolish high bay light fixture (at standard ceiling height)	3	EA	80.00	240
Retrofit with TLED or LED fixture	8	EA	200.00	1,600
SUBTOTAL:				\$ 3,340
Subcontractor's Overhead and Profit on Material and Labor	35.00%			1,169
SUBTOTAL:				\$ 4,509
General Requirements, Overhead, and Profit	45.00%			2,029
Estimator's Contingency	30.00%			1,961
Unique Market Risk	5.00%			425
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			941
A/E Design Fee	12.00%			1,184

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PHASE 4 Deficiency 10 - Exterior Receptacles	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
GFCI receptacle, weatherproof	3	EA	131.00	393
Rigid steel conduit and conductor	80	LF	14.72	1,178
SUBTOTAL:				\$ 1,571
Subcontractor's Overhead and Profit on Material and Labor	35.00%			550
SUBTOTAL:				\$ 2,121
General Requirements, Overhead, and Profit	45.00%			954
Estimator's Contingency	30.00%			923
Unique Market Risk	5.00%			200
Escalation to Summer 2024 at 7.91% per Annum				
(16 Months)	10.55%			443
A/E Design Fee	12.00%			557

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PHASE 4				70744
Deficiency 11 - Arc Flash Risk Assessment	QUANTITY	UNIT	UNIT RATE \$	\$
Perform arc flash assessment on existing electrical service and distribution equipment	1	LOT	1500.00	1,500
SUBTOTAL:				\$ 1,500
Subcontractor's Overhead and Profit on Material and Labor	35.00%			525
SUBTOTAL:				\$ 2,025
General Requirements, Overhead, and Profit	45.00%			911
Estimator's Contingency	30.00%			881
Unique Market Risk	5.00%			191
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			423
A/E Design Fee	12.00%			532

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PHASE 4	OUANTITY			TOTAL
Deficiency 12 - Repair Loft Shear Walls	QUANTITY	UNIT	UNIT RATE \$	\$
Note: Quantities are approximate.				
Find attached point to PEMB and uninstall	1	LOT	750.00	750
2"x4" wood stud framed wall	520	SF	2.90	1,508
2" blocking	65	LF	3.20	208
1/2" CDX plywood for shear wall	520	LF	3.30	1,716
Miscellaneous anchors, brackets, and/or holddowns	1	LOT	300.00	300
SUBTOTAL:				\$ 4,482
General Requirements, Overhead, and Profit	45.00%			2,017
Estimator's Contingency	30.00%			1,950
Unique Market Risk	5.00%			422
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			936
A/E Design Fee	12.00%			1,177