



City of Cordova

Multi-Building Condition Assessment:

Odiak Pond Gazebo

Prepared For:



Prepared By:



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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 Maintenance Shop
8. City Maintenance Shop
9. Ballfield Restroom / Concession Stand
10. Cordova Chamber of Commerce
11. Hollis Heinrichs Park Restroom
12. Flemming 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, civil, structural, mechanical, electrical engineers, and a cost estimator.

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 Odiak Pond Gazebo and Boardwalk.

2. EXECUTIVE SUMMARY

The Odiak Pond Gazebo and Boardwalk was evaluated by the team on September 27-28, 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.

The Gazebo and Boardwalk is in fair condition. It is mid-way through its useful life and shows signs of weathering but is structurally sound. It requires safety improvements to comply with building codes.

3. ODIK POND GAZEBO AND BOARDWALK

3.1. Description and Summary

The gazebo and boardwalk are built on pilings over Odiak Pond. There is approximately 500 feet of boardwalk connecting the gazebo to the shore, which includes a pair of benches.

3.2. Building System Assessments

3.2.1. Architectural

3.2.1.1. IBC Code Summary

Model Code Application

While the gazebo and boardwalk are technically not buildings, egress and dimensional requirements are still driven by the IBC. Assessment below is based on the 2021 IBC (current version adopted by the State).

3.2.1.2. Accessibility / ADA / ANSI A117 Compliance

Existing Conditions

The approach to the boardwalk currently has no accommodations for ADA accessibility. The path is gravel and has some damage that prevents wheelchair access. If the City of Cordova wants to provide ADA accessibility to this amenity, the following is required.

- ▶ Provide a 48-inch-wide asphalt walkway to the boardwalk; any height transition to the boardwalk shall be less than 1/2-inch. Any areas where slope exceeds 1:12 inches, with 1:8 maximum, handrails shall be provided on both sides of the path. Gravel path is approximately 300-feet.

Code Deficiencies

The boardwalk itself has no guards installed. Vertical drop to the water/wetland is approximately 4-feet.

- ▶ Install wooden guardrails on both sides of the boardwalk, guards are to be constructed to 42-inches above the walking surface. Baluster openness must be maintained at 4-inches max per picket. Overall boardwalk is approximately 500-feet.
- ▶ Guards have been provided at the gazebo, but are less than 42-inches in height; provide wood buildup to increase guard height to 42-inches. Overall length is approximately 18-feet.



Fig. 1. Gravel and termination at boardwalk



Fig. 2. Gravel and termination at boardwalk



Fig. 3. Gazebo



Fig. 4. Typical Boardwalk



Fig. 5. Typical Boardwalk

3.2.2. Structural

The Odiak Lagoon Boardwalk is approximately a total of 500-feet long of 6-feet wide wood boardwalk, supported by 3x8 wood edge beams spanning between driven steel pipe piles along its length. The boardwalk begins on the north shore of the lagoon, south of the Community Medical Center, and meanders south to the shore north of the Copper River Highway. There is a 50-foot-long spur of boardwalk midway which heads southwest to a gazebo at the end.

The boardwalk is constructed with 3x8 wood decking spanning across 4x10 edge beams which span between driven 3-inch steel pipe piles at approximately 6'-8" on centers. The piles are fitted with a 3 1/2-inch pipe sleeve with a steel beam saddle welded to the top. The pipe sleeve is secured to the pile with through eyebolts, which also serves as a connection point for 3/8-inch diameter wire rope bracing both transverse and longitudinally.

The boardwalk has a continuous 6x6 bull rail curb on each side, which are raised by 2x6 blocking at intervals and attached with carriage bolts through the deck boards.

There are two widened sections of the boardwalk, one on each side of the gazebo spur deck. On the northern widened section fiberglass bench seating, table and chairs are bolted to the decking. The south widened section is absent of any seating amenities.

There are no guard rails along the boardwalk length or along the edge of the gazebo deck. The boardwalk surface is uneven in places where the piling has settled more than other adjacent piling. Most noticeably in the southern portion of the boardwalk and the south widened section.

The gazebo is a manufactured wood frame structure. The floor plan is octagonal in shape with an outside diameter of 16-feet. The gazebo columns are fastened to the supporting decking with steel angles and through bolts. The structural condition of the gazebo is fair. There are three horizontal 2x8's forming a guard rail on the seven outside sides. On one side the top two guard boards are missing.

The structural condition of the boardwalk is fair. Maintenance and improvements are recommended as follows:

1. Relevel the boardwalk using shims where possible. The larger depressions may require installation of new piling adjacent to existing.
2. Install IBC code compliant guardrail along both sides of boardwalk and the gazebo attached to the edge beam below the decking.
3. Replace wood guard rail pieces at gazebo. The wood guard provides stability for the gazebo frames.
4. Adjust the piling cable bracing tension. Most cables are slack, but some have turn-buckles where others do not.



Fig. 6. Boardwalk View from North Shore



Fig. 7. Typical Boardwalk Edge



Fig. 8. North Boardwalk Widened Area

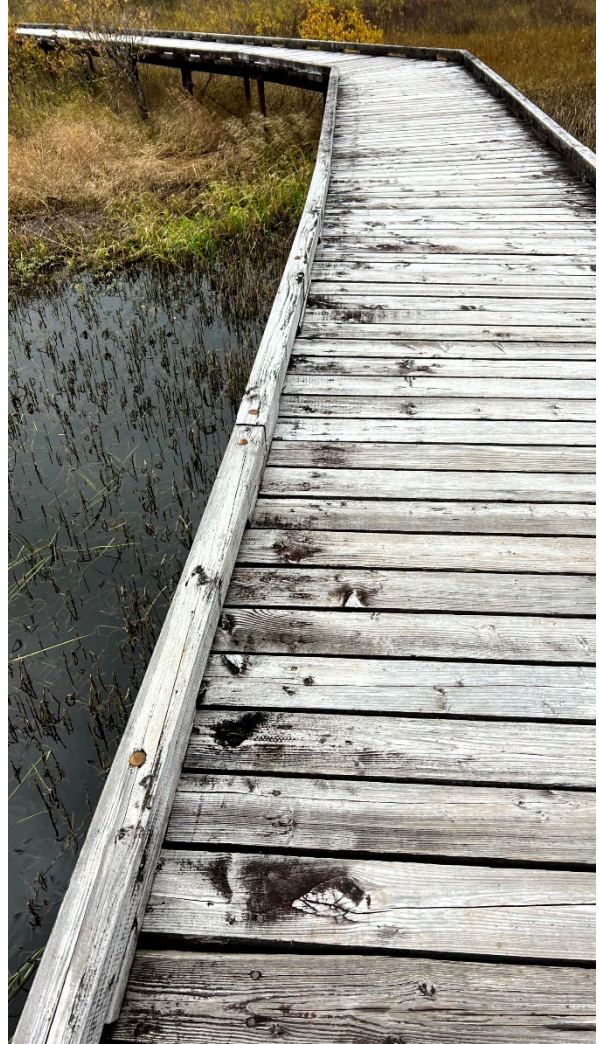


Fig. 9. Typical Boardwalk

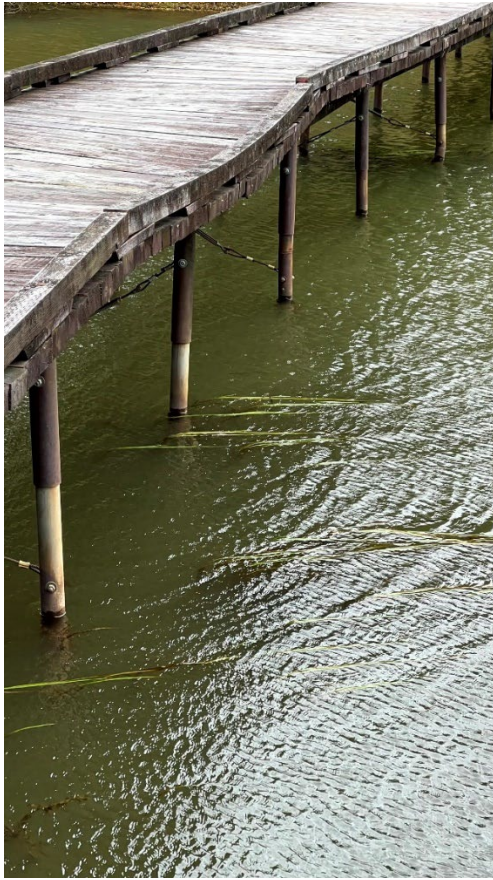


Fig. 10. Sagging Boardwalk in Southern Half



Fig. 11. Sagging Boardwalk at Southern Widened



Fig. 12. Gazebo



Fig. 13. Gazebo Missing Guard Beams

3.2.3. Civil

The Odiak Pond boardwalk and gazebo is located on the Odiak Pond at 300 Chase Avenue. A gravel trail leads to the start of the boardwalk. The gravel trail is rutted and steep in some areas. It does not appear to meet ADA accessibility guidelines. See structural and architectural sections for detailed information on the boardwalk.

3.2.4. Mechanical

There are no mechanical systems at this location.

3.2.5. Plumbing

There are no plumbing systems at this location.

3.2.6. Fire Protection

There are no fire protection systems at this location.

3.2.7. Electrical

Electrical loads for the gazebo includes a duplex receptacle and wiring to the top for a light fixture. It appears both loads have no service or power. An extension cord is installed along the length of the boardwalk to the base of the gazebo. The other end of the extension cord could not be located as it transitions to below grade at the end of the boardwalk. Per discussion with maintenance, it is likely that the extension cord runs to the medical clinic. The extension cord length is estimated to be over 100 feet.



Fig. 14. Damaged Unpowered Receptacle at Gazebo

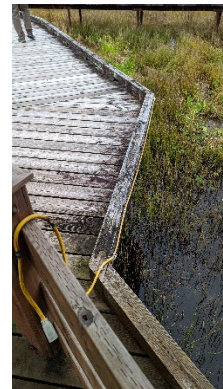


Fig. 15. Extension Cord to Gazebo

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 replacement cost, including demolition of the existing boardwalk and gazebo is estimated to cost \$428,557. If the City opted not to perform upgrades but decided the facility was a hazard, the gazebo and boardwalk could be demolished for an estimated cost of \$107,107. The total cost of all recommendations below is \$142,956. These recommendations work to improve the safety of the boardwalk during its remaining useful life.

3.2.9. Life Safety Recommendations

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

3.2.10. Phase 1

1. **Guardrails on Walkway.** Install wooden guardrails on both sides of the boardwalk, guards are to be constructed to 42-inches above the walking surface. Baluster openness must be maintained at 4-inches max per picket. Overall boardwalk is approximately 525-feet.

Estimated Cost: \$51,463

2. **Guardrails at Gazebo.** Guards have been provided at the gazebo, but are less than 42-inches in height; provide wood buildup to increase guard height to 42-inches. Overall length is approximately 18-feet.

Estimated Cost: \$441

3. **Paved walkway for ADA Accessibility.** Provide a 48-inch-wide asphalt walkway to the boardwalk; any height transition to the boardwalk shall be less the 1/2-inch. Any areas where slope exceeds 1:12 inches, with 1:8 maximum, handrails shall be provided on both sides of the path. Gravel path is approximately 300-feet.

Estimated Cost: \$46,355

4. **Gazebo Power and Lighting.** Replace the existing extension cord to the Gazebo with conduit and wiring. Provide a GFCI receptacle with locking steel cover. Feed load from a viable circuit within the hospital. Nearest panelboard is estimated to be 200 feet away. Provide a new vandal resistant LED light fixture at the ceiling of the gazebo.

Estimated Cost: \$14,922

5. **Relevel boardwalk.** Relevel the boardwalk using shims where possible. The larger depressions may require installation of new piling adjacent to existing.

Estimated Cost: \$29,775

Total Cost Phase 1: \$143,000

APPENDIX A – COST ESTIMATE

MULTI-BUILDING CONDITION ASSESSMENTS
CONSTRUCTION COST ESTIMATE (REVISION 2)

CITY OF CORDOVA
ODIAK POND GAZEBO AND BOARDWALK
CORDOVA, ALASKA

PREPARED FOR:

Coffman Engineering
800 F Street
Anchorage, Alaska 99501

March 3, 2023



HMS Project No.: 22130-E

NOTES REGARDING THE PREPARATION OF THIS ESTIMATE

DRAWINGS AND DOCUMENTS

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

RATES

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

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

BIDDING ASSUMPTIONS

<i>Contract:</i>	Standard construction contract without restrictive bidding clauses
<i>Bidding Situation:</i>	Competitive bid assumed
<i>Start of Construction:</i>	Summer 2024
<i>Note:</i>	Quantities, qualities, and conditions are assumed when not directly provided in narrative.

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

HMS Project No.: 22130-E

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.

HMS Project No.: 22130-E

CONDITION ASSESSMENT GENERAL COST SUMMARY

	<i>Total</i>
GAZEBO REPLACEMENT	\$ 321,450
GAZEBO DEMOLITION	107,107
DEFICIENCIES	142,956

HMS Project No.: 22130-E

CONDITION ASSESSMENT COST SUMMARY

<i>Total</i>	
PHASE 1	
Deficiency 1 - AC Pavement Walkway	\$ 46,355
Deficiency 2 - Boardwalk	51,463
Deficiency 3 - Gazebo Repair	441
Deficiency 4 - Electrical Service	14,922
Deficiency 5 - Leveling	29,775
TOTAL ESTIMATED CONSTRUCTION COST:	\$ 142,956

HMS Project No.: 22130-E

GAZEBO REPLACEMENT	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
New gazebo	202	SF	85.00	17,170
New piling	150	EA	400.00	60,000
New boardwalk	3,000	SF	18.00	54,000
SUBTOTAL:				\$ 131,170
General Requirements, Overhead, and Profit	45.00%			59,027
Estimator's Contingency	30.00%			57,059
Unique Market Risk	5.00%			12,363
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			27,390
A/E Design Fee	12.00%			34,441
TOTAL ESTIMATED COST:				\$ 321,450

HMS Project No.: 22130-E

GAZEBO DEMOLITION	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Demolish existing gazebo	2,015	CF	0.40	806
Demolish existing boardwalk	3,000	SF	4.00	12,000
Remove pile	150	EA	200.00	30,000
Disconnect and safe electrical service	1	LOT	250.00	250
Load, haul, and dispose of debris	1	LD	650.00	650
SUBTOTAL:				\$ 43,706
General Requirements, Overhead, and Profit	45.00%			19,668
Estimator's Contingency	30.00%			19,012
Unique Market Risk	5.00%			4,119
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			9,126
A/E Design Fee	12.00%			11,476
TOTAL ESTIMATED COST:				\$ 107,107

HMS Project No.: 22130-E

PHASE 1				
Deficiency 1 - AC Pavement Walkway	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$

Note: Fill and surface course prices per quote from Wilson Construction.

Excavate and dispose unsuitable	89	CY	15.00	1,335
Classified fill, compacted	107	CY	60.00	6,420
Surface course, compacted	18	CY	110.00	1,980
Finish grade leveling course	1,200	SF	0.20	240
2" AC pavement	1,200	SF	3.70	4,440
Guardrails (allowance)	100	LF	45.00	4,500
SUBTOTAL:				\$ 18,915
General Requirements, Overhead, and Profit	45.00%			8,512
Estimator's Contingency	30.00%			8,228
Unique Market Risk	5.00%			1,783
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			3,950
A/E Design Fee	12.00%			4,967

TOTAL ESTIMATED COST:	\$ 46,355
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PHASE 1				
Deficiency 2 - Boardwalk	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Wooden guardrail at boardwalk	525	LF	40.00	21,000
SUBTOTAL:				\$ 21,000
General Requirements, Overhead, and Profit	45.00%			9,450
Estimator's Contingency	30.00%			9,135
Unique Market Risk	5.00%			1,979
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			4,385
A/E Design Fee	12.00%			5,514
TOTAL ESTIMATED COST:				\$ 51,463

HMS Project No.: 22130-E

PHASE 1				
Deficiency 3 - Gazebo Repair	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Build up gazebo rail	18	LF	10.00	180
SUBTOTAL:				\$ 180
General Requirements, Overhead, and Profit	45.00%			81
Estimator's Contingency	30.00%			78
Unique Market Risk	5.00%			17
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			38
A/E Design Fee	12.00%			47
TOTAL ESTIMATED COST:				\$ 441

HMS Project No.: 22130-E

PHASE 1				
Deficiency 4 - Electrical Service	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Demolish receptacle	1	EA	30.00	30
Demolish light fixture	1	EA	70.00	70
Exterior ceiling mounted LED downlight	1	EA	675.00	675
Weatherproof GFCI receptacle	1	EA	120.00	120
Conduit and conductor	230	LF	15.00	3,450
Connect to existing	1	EA	165.00	165
SUBTOTAL:				\$ 4,510
Subcontractor's Overhead and Profit on Material and Labor	35.00%			1,579
SUBTOTAL:				\$ 6,089
General Requirements, Overhead, and Profit	45.00%			2,740
Estimator's Contingency	30.00%			2,649
Unique Market Risk	5.00%			574
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			1,271
A/E Design Fee	12.00%			1,599
TOTAL ESTIMATED COST:				\$ 14,922

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PHASE 1				
Deficiency 5 - Leveling	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Level gazebo using shims (allowance)	3,000	SF	3.25	9,750
Hand driven piles	6	EA	400.00	2,400
SUBTOTAL:				\$ 12,150
General Requirements, Overhead, and Profit	45.00%			5,468
Estimator's Contingency	30.00%			5,285
Unique Market Risk	5.00%			1,145
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			2,537
A/E Design Fee	12.00%			3,190
TOTAL ESTIMATED COST:				\$ 29,775