

CITY OF CORDOVA HARBOR FACILITIES/UPLANDS MASTER PLAN

The purpose of this document is to provide the Harbor Commission, city council, city administration and city staff direction for the future maintenance, use and development of the Cordova Harbor facilities and the immediate adjacent harbor area uplands.



Prepared by Cordova Harbor Dept., 2012, Updated 2014

FACILITIES

OLD HARBOR – Originally constructed in 1938, this facility was re-built following the 1964 earthquake. In 2005, after 41 years, this facility was completely renovated using funds received from the State in a transfer of ownership agreement which gave the City full ownership of the entire harbor. This facility is constructed using wooden floats, supported by steel piles and has the capacity to moor 214 vessels. **Current condition: Excellent**

Future Needs Within:

- ❖ 5 Years – Minor maintenance
- ❖ 10 Years – Minor maintenance/limited replacement of float components such as bull rails, decking, utilities where necessary.
- ❖ 20 Years- Maintenance to major components becomes more significant and frequent. Ongoing replacement of floats, decking, utilities should continue. Discussion regarding renovation should begin as this facility will be 26 years old. As part of renovation discussion, consideration should be given to installing sheet pile the length of Breakwater Ave. on the harbor side to provide for expanded parking, sidewalks or additional dock space.

LOADING DOCK – This facility was also rebuilt following the 1964 earthquake. The decking was replaced in 1998 and again in 2010. The old gantry style hoist was removed in 2010 and replaced with a hydraulic hoist. There are no known problems with existing piling or bracing. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years- Replacement of decking where needed.
- ❖ 10 Years- Evaluation of support piles and bracing. Replacement of all decking.
- ❖ 20 Years-Evaluation of entire facility for useful life remaining.

OLD GRID- This facility is a 180’/90 ton wooden grid which was constructed following the 1964 earthquake. It has had some replacement of timbers in the early 90’s but no other maintenance. Several of the supporting piling are rotten. The Harbor Department placed a vessel length limit of 40’ on this facility in the late 1990’s to help reduce damage. The trestle and dock associated with this grid have had some minor piling repair and bracing replacement. The building on this dock is currently being used as offices for the Prince William Sound Science Center. It has had extensive repairs and upgrades but is an old structure and should be evaluated in the future to determine if it retains any useful life. The deck to this trestle was replaced in 1998. **Current condition:**

GridPoor to Fair, Trestle-Fair

Future Needs Within:

- ❖ 5 Years-Replacement of grid timbers and trestle decking as needed.

- ❖ 10 Years-Evaluation of entire facility including the building. Based on the evaluation of the facility, decide whether to close and remove entire facility including grid, trestle, dock and building. This area could be used as a location for future expansion of harbor facilities. Possibilities include a new grid, more slips, and new airplane float.
- ❖ 20 Years-Construction of a new facility in this area.

OLD HARBOR APPROACH #4- This facility was constructed following the 1964 earthquake and the only maintenance performed has been decking replacement. During the renovation of the Old Harbor in 2005, this approach had a complete decking replacement. The building on this approach, although appears to be in fair condition, is approximately 46 years old. To eliminate future maintenance, this structure should be removed once it has reached the end of its useful life. The gangway on this approach was installed during the 2005 renovation and is in excellent condition. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years- Replacement of all decking.
- ❖ 10 Years- Evaluation of all decking, support piles and bracing and replace as needed. Evaluation of building and removal if necessary. Evaluation of gangway and repair where necessary.
- ❖ 20 Years- Evaluation of support piles, bracing and replace as needed. Replacement of all decking. Evaluation of building (if still in existence) and removal if necessary. Evaluation of gangway and repair where necessary.

OLD HARBOR APPROACH #5- This facility was constructed following the 1964 earthquake and the only maintenance performed has been decking replacement. The decking was replaced in 1998 and again in 2010. The gangway on this approach was installed during the 2005 renovation and is in excellent condition. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years-Continued replacement of decking as needed.
- ❖ 10 Years- Evaluation of all decking, support piles and bracing and replace as needed. Evaluation of gangway and repair where necessary.
- ❖ 20 Years- Evaluation of entire facility for remaining useful life.

NEW HARBOR-This facility was constructed with the expansion of the harbor beginning in the early 80's. It is currently 27 years old. This is primarily a concrete float facility with wooden components to tie it together. The transient float is wood with steel and wood piles. The remainder of the harbor has a combination of wood and steel piles. Although the concrete in this facility has held up well, we are starting to see the wooden components and concrete beginning to fail. The waterline was replaced in the mid-90's with an HDPE line which, since its introduction, has required very little maintenance.

Electrical components have had to be replaced at frequent intervals. H and I Floats have experienced significant damage due to winter storms which produces a swell which enters the harbor uninterrupted. In 1994, the State of Alaska spent approximately \$100,000 repairing damage from the north wind. Since that time, the harbor has seen the loss of several more finger floats due to the same north swells. This harbor has the capacity to moor 501 vessels. This facility should provide another 10-15 years of reliable service. **Current condition: Fair to Poor**

Future Needs Within:

- ❖ 5 Years-Continued replacement of and maintenance to structural components and utilities. Replace float systems in multiple phases, commencing with G float. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- ❖ 10 Years-Continued replacement of and maintenance to structural components and utilities including replacement of floats damaged by north winds. Efforts to secure funding for facility replacement should be in progress.
- ❖ 15 Years-Complete replacement or renovation of facility

NEW GRID-This facility is a 160'/250 ton steel grid and was constructed during the harbor expansion of the early 80's. During the first twenty years of its existence, this facility required frequent replacement of the wooden timbers. The last complete replacement of the wooden components was in 1997. In 2006, all of the wooden timbers were replaced with HDPE. Since that time, no maintenance has been required at this facility. **Current condition: Very good**

Future Needs Within:

- ❖ 5 Years-Monitor silt accumulation around lower grid bents and remove as necessary.
- ❖ 10 Years- Monitor silt accumulation around lower grid bents and remove as necessary. Complete an evaluation of all grid components, including steel piling, catwalk and HDPE timbers and replace items where necessary.
- ❖ 20 Years- Monitor silt accumulation around lower grid bents and remove as necessary. Complete an evaluation of all grid components, including steel piling, catwalk and HDPE timbers and replace items where necessary.

NEW HARBOR APPROACH #1-This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years-Replace planks and bullrails as needed.
- ❖ 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- ❖ 15 Years- Replacement of facility.

NEW HARBOR APPROACH #2- This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years-Replace planks and bullrails as needed.
- ❖ 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- ❖ 15 Years- Replacement of facility.

NEW HARBOR APPROACH #3- This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years-Replace planks and bullrails as needed.
- ❖ 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- ❖ 15 Years- Replacement of facility.

NEW HARBOR/NEW GRID APPROACH - This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years-Replace planks and bullrails as needed.
- ❖ 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- ❖ 15 Years- Replacement of facility.

THREE STAGE DOCK- There was major modification and enhancement of this facility during the New Harbor expansion of the early 80's. Since that time, the decking has been replaced on all levels of this dock, bullrails have been replaced, and all sway bracing under the dock has been replaced as well. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years-Replace planks and bullrails as needed.
- ❖ 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- ❖ 15 Years- Replacement of facility.

INNER HARBOR LAUNCH RAMP- This facility was constructed in 2005 with the

renovation of the Old Harbor. This launch ramp also includes an access float. Since its construction, no maintenance has been necessary. **Current condition: Excellent**

Future Needs Within:

- ❖ 5 Years-Continued monitoring of concrete planks on ramp and articulated access float. Make repairs/maintenance as needed.
- ❖ 10 Years- Continued monitoring of concrete planks on ramp and articulated access float. Make repairs/maintenance as needed.
- ❖ 20 Years- Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.

NORTH FILL LAUNCH RAMP- This facility was constructed in 1990 and has seen considerable damage to concrete planks due primarily to landing craft use. Although still usable, this facility needs improvement work. In 2011, funds were approved by the State of Alaska in the amount of \$350,000 for launch ramp improvements. In 2013 a 3rd of the concrete planks were replaced and a seasonal floating dock with steel pilings were installed. **Current condition: Good**

Future Needs Within:

- ❖ 5 Years- Replacement of the remaining old concrete planks.
- ❖ 10 Years- Continued monitoring of facility for repairs and maintenance. Secure funding and replace facility.
- ❖ 20 Years- Continued monitoring of facility. Make repairs/maintenance as Needed.

NORTH CONTAINMENT BOAT STORAGE AREA- Since the creation of this fill, these three lots just north of Bayside Storage has been used as a city boat storage area. It has been re-organized once and the Harbor Dept., along with the Harbor Commission, has recently developed plans and guidelines for use of this area to make it more user friendly by the addition of a maintenance area with water and power beginning in 2013.

Current condition: Good

Future Needs Within: North Fill Ramp Plan

A map of the area is attached and all areas described below have a corresponding letter on the map. Here are some definitions for terms in this plan.

Accessible Winter Storage means that the road that services the storage area will be plowed by the City. It does not mean that boats, paths to boats or boat tongues will be shoveled during the winter.

Semi Accessible Winter Storage means that the boat owner can access their boat but the city will not plow the area that the boat is stored in during the winter.

North Ramp Plan -All Areas

Purpose: Provide services for both commercial and recreational users.

Summer 2013

Continue removal and cleanup of area
Place existing properties into the newly identified areas.
Develop most efficient layout for all areas

Future 1-5 years

Evaluate area as a whole make changes if needed
Evaluate fee schedules

Future 6-10 years

- 1) Explore option of year-round floating dock use
 - A) Potential Breakwater
 - B) Wake Protection
- 2) Explore tideland purchase A) Additional Harbor Space
- 3) Explore Access
 - A) Improving access from Copper River Highway to Coast Guard Lane
 - B) Accessing areas through ROWs and Using ROW

Area A Maintenance Area

Purpose: To provide an maintenance area with water and electricity for commercial boats. A daily rate will be charged for use of this area.

Summertime: Maintenance Area 4/2-10/30

Wintertime: Semi-Accessible winter storage 10/31-4/1

Summer 2013

One Power pedestal to accommodate 4 power cords 1 spigot installed.
Water would be shut off at valve box in winter (Oct 15)

Future 1-5 years

Evaluate and make changes based on previous season's use
Metered Power for every maintenance space (1 power pedestal for every 2 spaces)
Update and determine fee schedule
Water would be combined with the power pedestals and would be supplied to every maintenance space
Research covering portions of the maintenance area (temporary vs. permanent) Research possibility/feasibility of Gantry crane

Future 6-10 years

Update fee schedule as necessary
Implement covered maintenance areas

Possible 220 power source
Gantry crane- purchase and install

Area B Long-Term Storage Area

Purpose: Provide an area for long term storage. Rent will be on monthly bases. This area will also be used for Oil Spill Response equipment.

Summertime: Storage 4/2-10/30

Wintertime: Accessible winter storage 10/31-4/1

Summer 2013

Continue removal of non-operable derelict boats or other property Research
how far we can push back toward CRH

Research if EVOST barges/equipment is in best area

Research fencing possibilities to prevent snow damage to stored property Research
possible gabion (cut bank back) at Railroad Ave.

Identify best layout for the area

Future 1-5 years

Evaluate and make changes based on previous season's use

Develop implementation plan and timeline

Update Master Plan

Future 6-10 years

Implement as research is completed and plans are developed

Area C Trailer Parking Area

Purpose: To provide summer season trailer parking and winter boat/trailer storage.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Accessible Winter Storage 10/31-4/1

Number of spaces determined by boat sizes

Summer 2013

Provide spaces for boat trailer parking

Organize existing vessels

Future 1-5 years

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area D Non Permit Required Vehicle Only Parking

Purpose: Provide 72 hour parking for stand-alone vehicles.

Summertime: Vehicle Parking 4/2-10/30

Wintertime: Accessible Winter Storage 10/31-4/1
Number of spaces determined by boat sizes

Summer 2013

Provide parking spaces for vehicles only..

Future 1-5 years

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area E Permitted Trailer Storage Area

Purpose: Provide permitted trailer parking for summer season. Provide winter boat storage.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Non-Accessible Boat Storage 10/31-4/1
Number of spaces determined by boat sizes

Summer 2013

Provide spaces for boat trailer parking

Future 1-5 years

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area F 72 hour Boat and Trailer Parking Area

*Purpose: Provide 72 hour Non-Permit required parking area for recreational boats and trailers **only**. Ramp Permit must be purchased and displayed.*

Summertime: Boat and Trailer Parking 4/2-11/30

Wintertime: Snow Dump 12/1-4/1

Summer 2013

Provide parking spaces for recreational boats and trailers.

Future 1-5 years

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area G 24 hour Boat and Trailer Parking Area

Purpose: Provide 24 hour Non-Permit required staging area for commercial trailer and boats, like area provided across from South Ramp-Baja Taco area. Not to provide standalone vehicle parking. Ramp Permit must be purchased and displayed.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Snow Dump 10/31-4/1

Summer 2013

Provide 24 hour staging area for commercial trailers and boats.

Future 1-5 years

Evaluate and make changes based on previous season's use.

Future 6-10 years

Implement as research is completed and plans are developed

Area H Permitted Trailer Storage Area

Purpose: Provide permitted trailer parking for summer season.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Snow Dump 10/31-4/1

Summer 2013

Provide permitted spaces for boat trailer parking

Future 1-5 years

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area I Outbuildings

Purpose: Provide restrooms, waste oil / antifreeze collection area and dumpsters.

Summertime Only: 4/2-10/30

Wintertime: Winterized 10/31-4/1

Summer 2013

Provide Port-A-Potty.

Future 1-5 years

Research outbuilding design and feasibility, including steel bollards.

Implement as research is completed and plans are developed

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area J Future Use Area

Purpose: Continue development of North Fill Ramp Area

Summertime: Summer Use 4/2-10/30

Wintertime: Snow Dump 10/31-4/1

Summer 2013

Determine the need of future storage or other uses.

Future 1-5 years

Develop storage areas or other uses as needed.

Evaluate and make changes based on previous season's use

Future 6-10 years

Implement as research is completed and plans are developed

Area K Future Access

Purpose: Continue development of North Fill Ramp Area

Summertime: Summer Access 4/2-10/30

Wintertime: Winter Access 10/31-4/1

Summer 2013

Determine the need of additional or new access.

Future 1-5 years

Evaluate and make changes based on previous season's use Develop access as needed.

Future 6-10 years

Implement as research is completed and plans are developed

- ❖ 5 Years- Completion of maintenance area including vessel spaces with water and electricity available at each space. Continue monitoring by harbor staff to ensure proper use.

- ❖ 10 years- Maintenance to utilities as needed. Continued monitoring by harbor staff to ensure proper use.

- ❖ 20 Years- Maintenance to utilities as needed. Continued monitoring by harbor staff to ensure proper use.

- Area D Vehicle Parking
- Area E Permitted Trailer Storage
- Area F 72 Hour Boat and Trailer
- Area G 24 Hour Boat and Trailer
- Area H Permitted Trailer



- Area D Vehicle Parking
- Area E Permitted Trailer Storage
- Area F 72 Hour Boat and Trailer
- Area G 24 Hour Boat and Trailer
- Area H Permitted Trailer

Scale: 1" = 50'-0"



CITY DOCK- Constructed in 1965, this facility was the moorage facility for the USCG buoy tenders until 2002 when the USCG relocated to the North Fill T-Dock. This dock was completely re-decked in 1998 and then underwent a 4 million dollar renovation in 2005. This renovation included piling replacement, decking and bullrail replacement, installation of fenders and camels, installation of dolphins, upgraded lighting and replacement of all sway-bracing. Since the renovation only minor maintenance has been required to the camels and lighting. **Current condition: good**

Future Needs Within:

- ❖ 5 Years - Monitoring of facility for needed repairs and maintenance.
- ❖ 10 Years- Continued monitoring of facility for repairs. Decking will most likely need replacement. Camel anchoring system should be evaluated and replaced as needed.
- ❖ 20 Years- Continued monitoring of facility. Replacement of all decking and bullrails. Replacement of sway-bracing where needed. Replacement of camels and anchoring system. Upgrade/replacement of lighting system.

NORTH CONTAINMENT T-DOCK- This facility was constructed in 1989 and was initially used for loading and unloading of fishing gear and light freight. In 2002, extensive upgrades were completed as part of an agreement with the USCG to relocate their new buoy tender to this facility. This is a secure facility and is leased to the USCG for buoy tender moorage. This facility is a concrete dock supported by steel piles. It has a timber fender system as well as a series of camel logs which keeps the buoy tender off the face of the dock. Since the upgrade, little maintenance has been required at this facility. One fender was replaced due to a vessel strike and there have been some waterline problems during the winter months. The abutment between the dock approach and the road was replaced with a concrete one in 2011. **Current condition: Excellent**

Future Needs Within:

- ❖ 5 Years- Monitor fenders, camels and lighting for needed maintenance.
- ❖ 10 Years- Evaluation of steel piles for corrosion and installation of cathodic protection if necessary. Monitor fenders, camels and lighting for needed maintenance.
- ❖ 20 Years- Continued monitoring of all facility components for repairs.

MUNICIPAL DOCK(Ocean Dock)- This is Cordova's primary facility for the reception of the community's fuel and waterborne freight. This dock, constructed in 1968, is a concrete facility supported by steel piles. A brief history of maintenance at this facility is as follows: 1982- Replacement of all fenders on the face of the dock. 1994- Installation of heat shrink wraps to all piling to enhance corrosion protection. 1997- Bull rail repair/replacement at the face of the dock. 2001- Piling cluster re-securement at dock corners. There is a small building of the dock which houses the Cathodic Protection system which provides a steady current to all piling to prevent corrosion. This system is inspected and serviced every year and is in good operating condition. This facility, for its age, is generally in good condition. I credit the condition of the dock to less use over recent years. Samson Tug & Barge, Trident and Shoreside Petroleum are the only regular users. In the past other users included Sealand, and the Alaska Marine Highway.

Sealand no longer comes into Cordova and the Marine Highway constructed their own facility in 2005. Some of the ocean side fendering system is starting to break lose from the dock face. Upgrades to components of the dock need to be considered to extend the life of the facility. **Current condition: Fair**

Future Needs Within:

- ❖ 1-5 Years- Make repairs to ocean side fendering system.
- ❖ Continued maintenance to bull rails, fenders, overhead lighting and cathodic protection. Although these components are starting to show their age, with proper repairs should last at least five more years.
- ❖ 10 years- Funding should be secured to begin replacement of all bullrails, fenders (especially at dock face) and lighting. The cathodic protection system should be evaluated for life expectancy and either be updated or replaced.
- ❖ 20 years- A thorough evaluation of this facility should be completed to determine remaining useful life.

TRAVEL LIFT FACILITY- Construction to this facility was completed in 2010. It includes the Marine Travel lift, piers, wash down pad, water treatment unit, maintenance area including overhead lighting and utilities. The facility operates on approximately 2 acres of the Ocean Dock Subdivision. The Marine Travel Lift was purchased in 2009. In 2013 the City completed a land swap with Samson Tug & Barge, making the travel lift facility and operating area more efficient. **Current condition: Excellent**

Future Needs Within:

- ❖ 1-5 Years- Replacement of travel lift straps and tires. Explore options and secure funding to expand existing fill to provide for additional space for vessel maintenance/storage and to provide space to erect a large maintenance building.
- ❖ 10 Years- Expand fill and erect maintenance building.
Monitor facility, equipment and systems for continued maintenance and repairs.
- ❖ 20 Years- Continued maintenance to all facilities, equipment and systems.

UPLANDS

SOUTH CONTAINMENT FILL- Since its construction during the early 80's harbor expansion project, this area has reached its capacity for future development. The possibility of expansion of this area needs to be discussed. Other discussion should include parking, sidewalks and use and direction of future expansion.

Future Needs:

1. All current parking areas should be designated and maintained as permanent harbor parking and those areas should never be considered as available for sale.
2. Sidewalks with proper curbs and drainage should be established throughout this area.
3. Designate and maintain a short-term trailer parking area for recreational users.
4. Explore the installation of sheet piles on the harbor side of Nicholoff Way to provide additional space for sidewalks, parking or businesses.

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NORTH CONTAINMENT FILL- Since its construction during the early 80's harbor expansion project, this area has reached its capacity for future development. The possibility of expansion of this area needs to be discussed. Other discussion should include parking, sidewalks and use and direction of future expansion.

Future Needs

1. Designate and maintain Lot 1&2, Block 6 as a staging, turnaround and parking area for trailer use at the North Fill Launch Ramp.
2. Designate Lots 1&2, Block 6 and Lot 3, Block 5 as snow dumps during winter months.

HARBOR EXPANSION

The future expansion of the harbor is a topic that has been discussed recently since slips for boats larger than 40' have been in demand for approximately the last year. Since the last expansion in the early 80's, winter storms have caused the loss of 10-50' finger floats(20 slips), 2-40' finger floats(4 slips) 2-30' finger floats(4 slips) and 1-26' finger float(2 slips). The loss of the smaller slips is insignificant, however, the loss of the 50' slips has proven to put a demand for large boat moorage on the harbor. Although discussion of expansion is certainly a valid topic, there may be ways to avoid this expensive endeavor.

At some point in the next 10-15 years, the New Harbor will have to be renovated as it will be approaching the end of its useful life. With thoughtful design and engineering, the New Harbor renovation should provide adequate moorage for years to come. With input from city staff, Harbor Commission and the public, engineers should be able to design a more efficient, user friendly harbor layout that will sufficiently provide moorage for the fleet. Since about 2010, the annual stall rental capacity has held consistently around 90% capacity. With a more efficiently designed harbor, the ability to accommodate all users should not be an issue.

Possible future expansion into the area that is now occupied by the Old Grid and the Prince William Sound Science Center could also provide for additional slips as well. This area could provide for several large boat slips or as many as twenty small boat slips.