MTAB - Fleet & Terminal Reports

August 19, 2016

Vessels

M/V Columbia Federal Capital Improvement Project – Winter 2015/2016

The Columbia completed a Federal Capital Improvement Project and overhaul during the winter of 2015/2016. This Capital Improvement Project consisted of refurbishment and upgrade of the bridge deck crew living quarters and stack repairs. Also, upgrades to ADA accommodations, refurbishment of select machinery, replacement of furniture, fittings, outfitting's, light fixtures, electrical switches, windows, interior and exterior doors were completed. Work was also done on electrical, HVAC, mechanical equipment, public address system, fire protection systems, signage, cabling, exterior/interior paint, flooring, stability assessment, and drawings. The project also included a state funded overhaul and dry-docking. This CIP was conducted by Puglia Shipyard in Bellingham.

M/V Matanuska Repower Winter 2017/2018

The Matanuska will receive new engines and a new steering system replacement during the winter of 2017/2018. This project will replace the main engines, reduction gears, control systems, shafting, propellers, rudders, associated auxiliary equipment, exhaust and waste heat boilers, bow thruster, steering gear, electrical generation switch boards, house and stack repairs, painting, security upgrades, miscellaneous system upgrades, rescue boat and davit upgrades, structural repairs, exterior and interior paint, and a state overhaul. Design engineering is complete, the contract has been awarded to Vigor Industries in Portland Oregon, and the project will commence in September 2017.

Electrical Generation Upgrade

The project began by investigating the physical condition of the Columbia, Malaspina, and Matanuska's power generation and distribution systems from the switchboard and generators to the motor controllers. Information from the fleet condition survey reports and on board inspections is being utilized to identify any abnormal physical or operating conditions or practices that would require alterations or modifications. Following this review, new switchboards will be manufactured and installed aboard the three ships, as the vessels go into their annual overhaul, or undergo capital projects. The goal is to install new power generating equipment, correct any abnormalities, and assure solid electrical systems and regulatory compliance. To date the Columbia emergency generator and emergency switchboard has been replaced , the Malaspina is currently having a new switchboard and associated electrical wiring installed at Vigor Shipyard in Ketchikan, and the Matanuska will have its switchboard and associated electrical wiring replaced during its repower project during the winter of 2018.

Fast Ferry Systems Upgrades

This project for both the Fairweather and Chenega consisted of design and installation of existing ship's systems to address problems that have been identified during vessel operations. The interior carpeting, flooring, chair cushions, hull paint, exterior paint, interior upgrades and general equipment maintenance and upgrades were affected. Aluminum hull repair work also took place to repair aluminum pitting discovered on both vessels. New fast rescue boat davits will be installed after this operating season. The Fairweather project was completed in April 2016, and the vessel is currently in revenue service and the Chenega project will be completed by October 1, 2016, at which time it will be placed into a long term layup, due to reduced budgets. Both CIP projects were conducted at Foss Shipyard in Seattle, Washington.

Malaspina SOLAS Waiver

AMHS initially requested a SOLAS Waiver which would have allowed both the Columbia and Malaspina the ability to make unlimited calls at Prince Rupert, B.C. This request was rejected by the USCG in Washington D.C. AMHS next conducted a GAP Analysis of the Malaspina in an effort to waive just the M/V Malaspina. The Gap analysis consisted of AMHS engineering staff, a subcontractor, and a USCG team riding the Malaspina to analyze and conduct inspections in an effort to identify SOLAS deficient items which could be either corrected or waived. Using the Gap Analysis information, a new SOLAS exemption request was submitted to include just the Malaspina for a one year period of time during the Matanuska repower project. With this approach AMHS has received a positive endorsement from USCG Sector Juneau and Transport Canada and are optimistic of receiving final approval from USCG Headquarters for a one year waiver.

Fleet wide Lifesaving Equipment Upgrades

AMHS has an ongoing federally sponsored project to upgrade fast rescue boats and davits where needed. To date, the Columbia and Kennicott have had new davits and new fast rescue boats installed. The Fairweather will have a new fast rescue boat davit installed this fall, and the Matanuska will receive a new davit and fast rescue boat when it enters the shipyard in the winter of 2018 for its re-power project.

Fleet Condition Survey

Glosten Associates, a subcontractor, is currently working under contract, along with AMHS engineering staff, to complete a mechanical and condition survey of all fleet vessels. Preliminary reports have been developed for the Malaspina, Columbia and Tustumena. The contractor is continuing to develop reports for the remainder of the fleet, along with producing a new data base of the findings, and developing a system for tracking each ship. The project will be completed in February 2017.

AMHS M/V TAKU Appraisal and Survey

Art Anderson Associates was awarded a contract to establish a sales price estimate and to also make recommendations with regards to a sales method. The work commenced on March 4, 2016. The contractor has surveyed the vessel and is currently working with Brokers to develop the below deliverables. The report should be delivered by mid-August 2016.

- Conduct an independent appraisal and analysis of the world wide ferry vessel market for establishing a potiential sale price of the vessel
- Development of vessel specification package
    - Vessel history
    - Technical specifications
    - Class and or regulatory drawing packages
- Development of estimated vessel scrap price
- Development of market based analysis and estimated vessel purchase price
- Outside resources being used
    - Vessel Brokers
    - One Europe
    - One Australia
    - Admiralty lawyer local

The request for approval to sell the vessel is still pending at FHWA Headquarters.

M/V Tustumena Structural Analysis

Due to recent cracks which have been discovered in the vessels structure, Elliott Bay Design Group (EBDG) has been awarded a contract to study the vessels condition and make recommendations to AMHS. The initial deliverables are due by mid-September which will include survey results and recommendations for any required repairs, with a scope of work as follows below.

- **SCOPE OF WORK**
  The scope of work described in this proposal is to develop a structural analysis for the M/V TUSTUMENA. EBDG will prepare the reports and design documents to a level of detail appropriate for regulatory review and approval, to the extent practicable. The proposed design deliverables for the M/V TUSTUMENA Structural Analysis are:
    - Task 1 --- hand calculations for strength assessment
    - Task 2 --- Global Finite Element Analysis (FEA) model of vessel structure, including superstructure. Direct calculations of vessels response in still water and wave conditions
    - Task 3 --- Detailed Models will be generated after FEA results are complete, with more detailed information
    - Task 4 --- Develop structural modifications with the goal of reducing the magnitude of stress in the worst-case structure locations as found in Tasks 2 and 3
    - Task 5 --- Fatigue Life Assessment will be estimated utilizing ABS guidance for the fatigue assessment of offshore structures, as there is no vessel specific guidance for this approach
- Task 1 -3 will be completed by mid-September

In the meantime, Tustumena remains operational with a frequent inspection protocol and conservative sea state limitations to detect and minimize the potential for additional damage.

FVF Chenega Layup Update

Invitation to Bidders (ITB) for the long term layup of the Chenega was issued on July 1, 2016 with an opening date of July 29, 2016.

- Bids were limited to geographical locations
    - Lake Washington (fresh water)
    - Puget sound area which includes
        - Tacoma
        - Shelton
        - Port Angeles
        - Everett

Once the mandatory protest period is over, a contract for long term layup of the vessel will be awarded.

Taku Layup Update:

ITB (Invitation to Bid) for the long term layup of the Taku is in development with targeted issue date of August 2016. Invitation to Bidders will have geographical restrictions to the Ketchikan area. Taku will move from South Berth to make way for other AMHS vessels this winter.

Passenger Services Amenities Upgrade Project

A federally sponsored fleet wide passenger services upgrade project is in the early stages of planning. The upgrades to public spaces will also include galleys and passenger elevators as needed.

Tustumena Replacement Vessel Project:

100% PS&E (Plans Specifications and Estimates) package received from the designer, Glosten Associates on January 15, 2016. The project is in the current STIP as a Beyond FFY19 project. STIP Amendment 1 pulls that forward to a FFY17 project. Legislative Authority to obligate federal funds for construction and for the state match will be part of the FY17 DOT&PF budget.
Design and construct an ocean going vessel to replace M/V Tustumena.

- The M/V Tustumena entered service in 1964 and is near the end of its design service life. Together with the M/V Kennicott, these two ferries are the only ferries capable of serving the Alaska Marine Highway routes between Homer, Kodiak, and the Aleutian Chain.
- Why replace the M/V Tustumena
  - Age: 50 years old
  - Lack of Capacity: 36 Vehicle (720 Lane Feet) and 174 Passengers. There is increasing demand for car deck capacity between Homer and Kodiak. Also there is an increasing demand for car deck capacity for the Aleutian Chain route.
  - The increase in the discovery of wasted steel and cracking during annual maintenance availabilities.

Tustumena Replacement Vessel Characteristics

Length Over All (LOA)	330 Feet
Depth	24.5 Feet
Breadth Over All (BOA)	71 Feet
Design Draft	15’ – 10” to 16’ – 6” (End of Service Life)
Air Draft	90 Feet
Cruise / Service Speed	15 Knots
Vans & Cars	12 Vans & 27 Cars
Cars Only	54
Vehicle Loading Ability	Stern & Side (Port & Starboard) Vehicle Elevator
Vehicle Lane Length	1,180 Feet
Passengers	250 (Berths for 104)
Officer & Crew	Minimum Manning IAW Regulatory Requirement Manned Engine Room

Project Key Dates

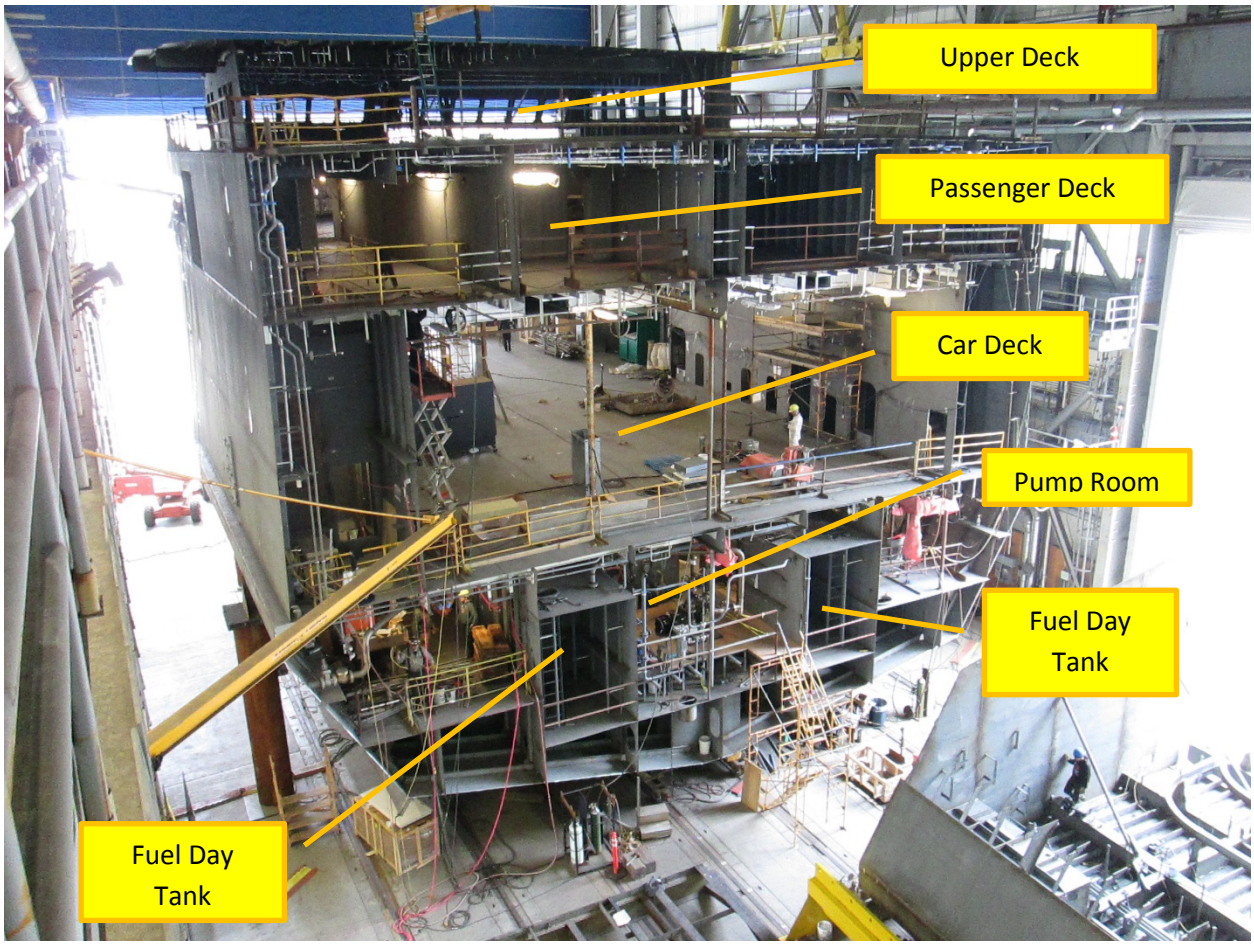
Glosten Selected for Design	November 2013
Reconnaissance Report	March 2014
Environmental Documents	June 2014
Design Study Report	November 2014
Final Design (100% PS&E)	January 2016

1. Glosten (AMHS Engineering Consultant) is working on the following items.
   a. Development of Contract General Provision.
   b. Stability Assessment – Look at the impact of the proposed IMO Damaged Stability Requirement.
   c. Development of Equipment Matrix for Public Interest Finding and Buy America.

ACF Construction Project

Construction is progressing at Vigor Alaska Shipyard Ketchikan of M/V Tazlina and M/V Hubbard. Current estimates place operational acceptance of the second contracted vessel to be in mid-February 2019, 4 months behind the current contract schedule.

Day Boat Alaska Class Ferry Construction Report



Project Name: Day Boat ACF	Month Ending: 07/29/2016
Project Number: 73073	Last report was four weeks ago
	File: 0130-03

PROJECT STATUS

Background Contract Information

Vigor Alaska LLC is conducting the project under a Construction Manager / General Contractor (CM/GC) contract signed on October 16, 2014 for $101,513,651.00, which has been encumbered. Construction is in its 19th month, with nine modules assembled and three under construction. The contract delivery date is October 15th, 2018.

Vigor Alaska Items

- There are 78 people currently assigned to the project, excluding management personnel.
- Vigor's work flow plan is functioning the way they intended.
- Vigor continues to populate their computerized inventory and storage system.
- The project schedule effort is producing a weekly Cost Performance Index (CPI) as well as the Schedule Performance Index (SPI).
- Glosten continues to release a new version of the 3D model nominally every week. The pilothouses module outfitting was completed this week.
- Major materials received on site this month includes steel for hull structures, HVAC ducting, piping material, electrical panels and motor starters, and anchor windlass controllers.
- The P6 software also produces the current status of modules under construction, with weekly updates.
    - Module 1: bow thruster tunnel fairing plates into the hull continuing.
    - Module 3: Electrical panels and controllers mounting
    - Module 4: Doors being cut out in bulkheads & electrical
    - Module 7: Outfitting (electrical and pipe) is in progress.
    - Module 8: Painting and insulation.
    - Module 9: Electrical and pipe nearly complete.
    - Module 10: Weld out and outfitting is 90% complete.
    - Module 11: Both halves set this past week, fitting up and tacking in place.
    - Module 13: Starting construction on platen table.
    - Module 14: (Engine Room) Construction continuing with 4 of the 5 units constructed.

Challenge Areas

- Manpower continues to be a problem, although the shipyard has developed more workstations which will help accelerate work completion.
- Funds expended to date are 26.5% of the Vigor contract amount but 45% of the contract project duration has elapsed. The current schedule shows the second vessel being delivered four months late. The schedule calculates the CPI (cost performance index) which shows they need to get more efficient, and the SPI (schedule performance index) shows they are making up time on the units currently in works.

Project Status Summary

Project Schedule	Project management software indicates a four month delay in delivering Boat #2.
Project Percent Complete	40%, based on actual hours worked vs. planned hours to completion of ship #1.
Funds expended to date for Phase 2 & Phase 4	TOTAL $ 39,470,319 Which is 33% of $120,001,000
Contract Performance	654/1461 days (45%)
Contracted Operational Acceptance Date	10/16/2018
Predicted Operational Acceptance Date	01/09/2019

Figure 1The Tazlina at the end of July

Figure 2 The Tazlina one month ago

Figure 3 The Tazlina two months ago

Figure 4 The Tazlina three months ago

Figure 5 Tazlina four months ago

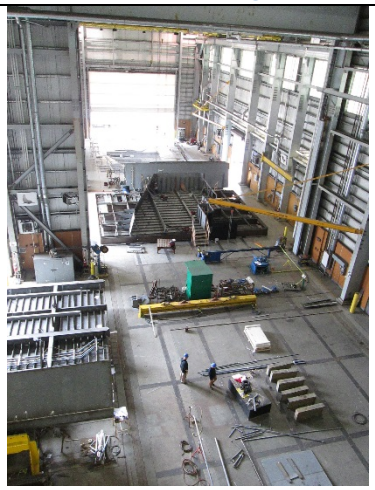


Figure 6 A unit of Module 13 being constructed

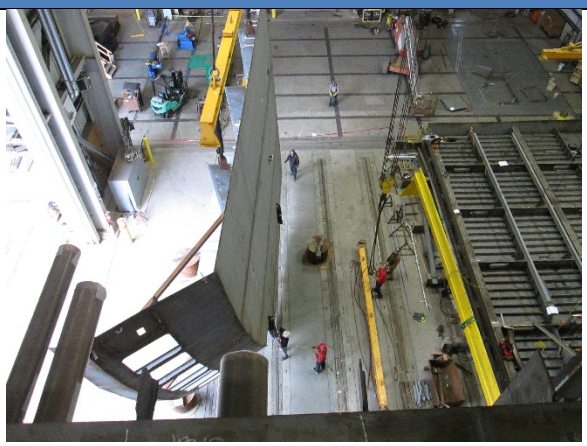


Figure 7 Lifting the port side of Module 11 into place

Figure 8 Watertight door in the outer hull

Figure 9 The name is on the ferry

Figure 10 Progress on the thruster tunnel

Figure 11 A welder working on Module 14

Figure 12 Pumps waiting for installation

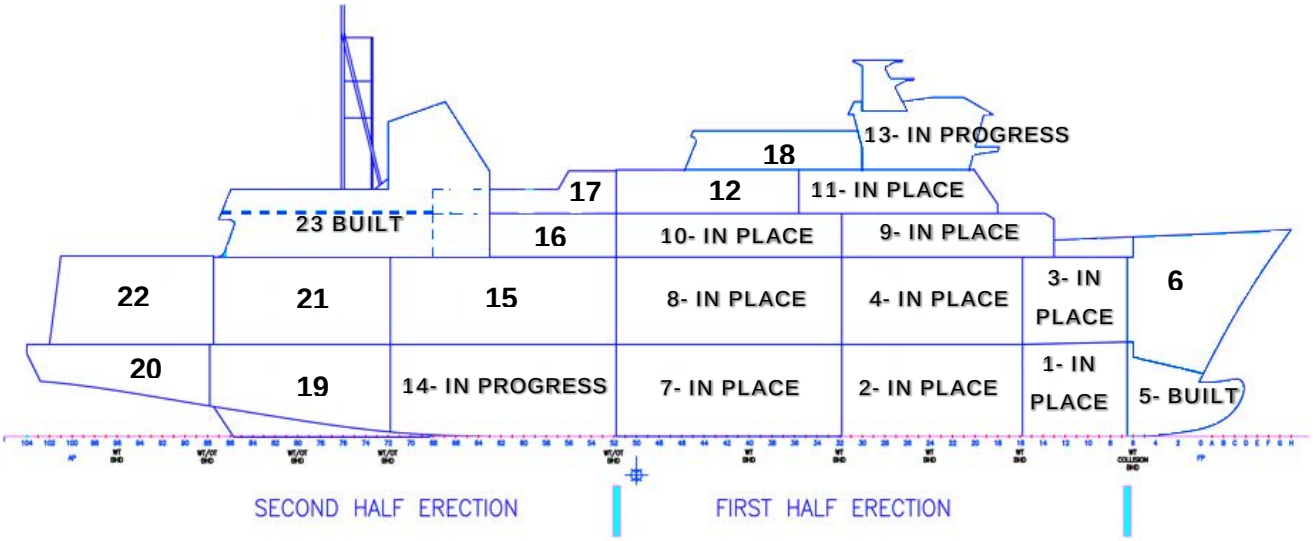


Figure 13 Ferry Module Arrangement

Module #9 Construction

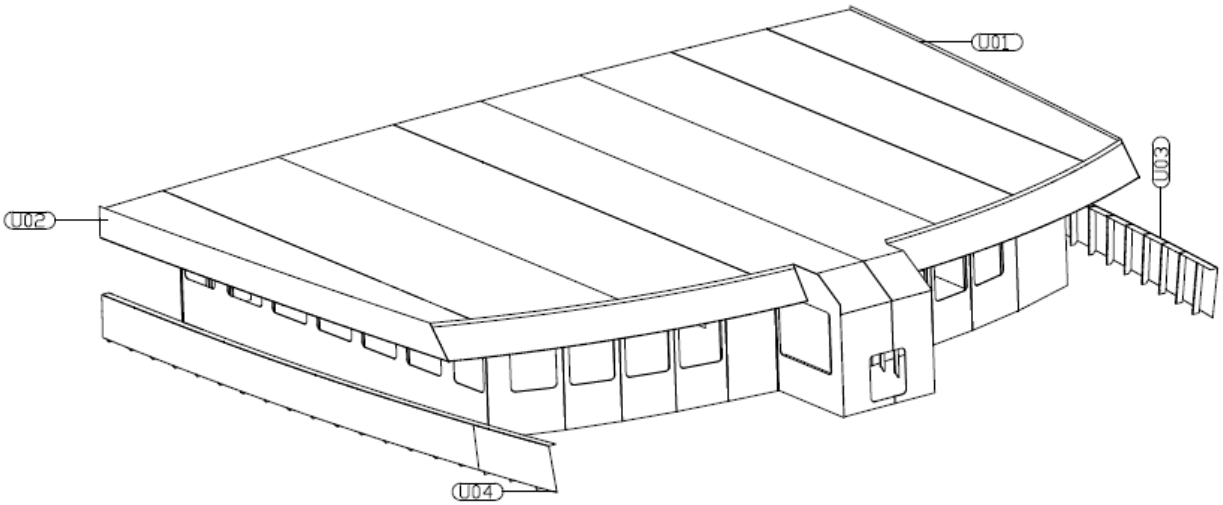


Figure 14 Stairway leading to the Upper Deck

Figure 15 View of the Family /Children's Play Area on the forward starboard side

Module #14 Construction (Engine Room)

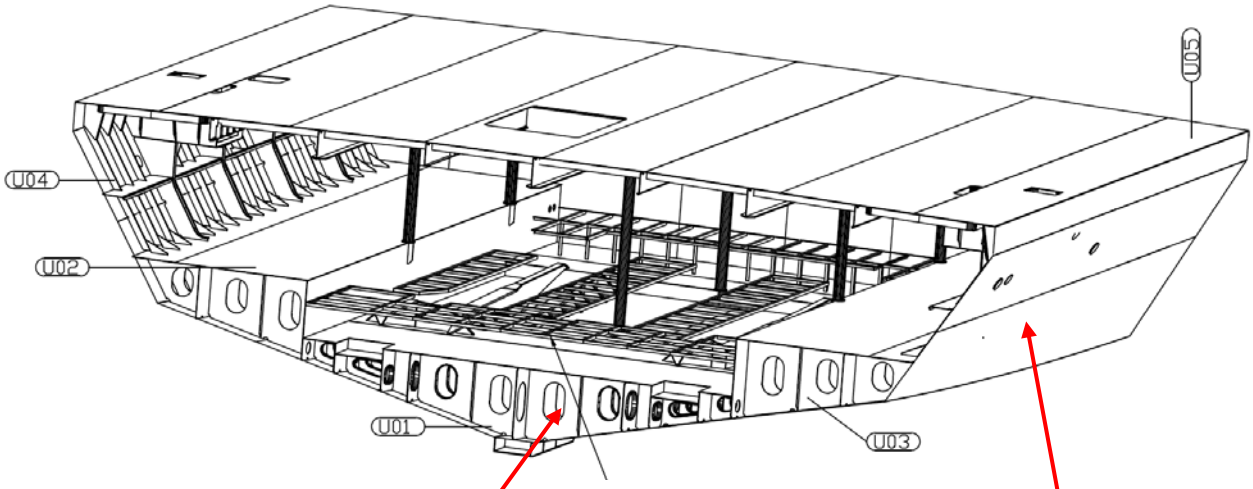
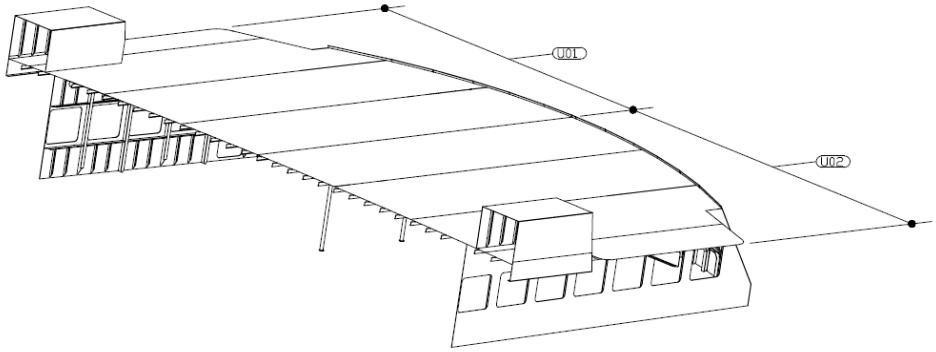


Figure 16 Module 14 Unit 1 being assembled in the Halibut Station

Figure 17 Module 14 Unit 05 in the assembly hall

Module #11 Construction (Upper Deck)



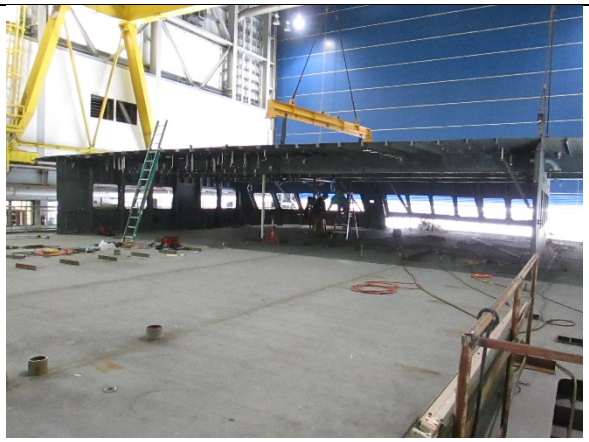


Figure 18 Module 11 being placed onto the assembled ferry

Figure 19 Front of Module 11, also showing the new railing mounted on top of Module 9

Figure 20 A shot from the side from the 4th floor catwalk

Figure 21 Checking the straightness of the module

New Reservation System

CarRes is now being used throughout the system. Passengers and vehicles are being scanned on and off the ships. While implementation of the new system has not been without its challenges, the transition process has gone smoothly due to the hard work of terminal and vessel staff. The handheld scanners and kiosks are still being tested to ensure full functionality. AMHS is working closely with Carus to resolve all issues that have come up since "Go-Live". Continued improvements will be made to the system over the next few months to increase efficiencies for both customers and staff.

Terminals

Haines Ferry Terminal Improvements First Phase

This project consisted of removing the existing deteriorated cellular sheet pile bulkhead structures and replacing them with a riprap slope and a pile supported mooring dolphin and fender system and associated access structures. The work included offshore dredging to provide sufficient water depths along the face of the berth for safe vessel use. Additional upland areas were also developed to offset land area losses as a result of the removed sheet pile dock structures and to allow reconfiguration and expansion of the uplands for the provision of two separate vehicle staging areas. Upland work further included the provision of retaining wall structures, relocation of the generator and storage building structures and utility work. The project did not close the ferry terminal, however in order to complete the work, starboard side berthing was not unavailable the entire summer of 2015. While starboard side berthing was unavailable, the FVF vessels did not berth in Haines. The project was completed in June 2016.

Haines ACF End Berth Second Phase

This project will consist of design and construction of two bow/stern loading docks for berthing the new Alaska Class Ferries. Shore side and uplands improvements will also take place. The preliminary design and required environmental work is currently underway, and this project is expected to be completed in April 2018.

Angoon Ferry Terminal Passenger Facility

This project is currently planned to construct a new passenger terminal building, improve upland parking and staging areas along with an electricity connection. A separate restroom facility is also constructed on the site. Completion is expected to be September 2016.

Kodiak Ferry Terminal Improvements

The Kodiak Ferry Terminal Improvement project consisted of the reconstruction of the existing Pier I multi-use dock facility. The project was completed in July 2016, and the Tustumena is currently using the new docking facticity. AMHS is negotiating a new use agreement with the city.

Prince Rupert Ferry Terminal Replacement

The Prince Rupert ferry terminal dock replacement project remains in a stalemate over the Buy America act compliance issue. Alternative options for accomplishing the project using an innovative procurement strategy are being analyzed by marine engineering and legal to see if we can complete it without either

side backing down from their position. In the meantime, AMHS is coordinating minor repairs and maintenance efforts to keep the facility functional and safe.

Skagway Ferry Terminal Modifications

After the April 24, 2014 sinking of the AMHS floating dock DOT&PF conducted a complete survey of and determined that renovation would be favorable over replacement. The project will move forward with making improvements and restoration to the existing float structure so that the float is suitable for pedestrian, vehicle and vessel use. This project will conduct a detailed inspection and analyze the existing float structure and associated mooring, utility and other components. It will then proceed with the restoration of the anchor chains, anchors and hawser penetrations. Also to be restored are the fuel, water, electrical lines, side berth fender systems, vehicle ramp and lift system and float deck restoration along with other concrete repairs. The work will also seal off all penetrations below the main deck level, improve the bridge bearing system by replacing rollers which will help mitigate steep bridge and transition plate grades and conduct transfer bridge corrosion proofing, and repainting. We are in negotiations with the city of Skagway regarding timing of the project as there will be an AMHS service outage during part of the construction.

Ketchikan Terminal

This is a two phase project consisting of the replacement of some of the of existing vessel berthing and mooring structures, placement of a new turning dolphin between berths 1 and 3, refurbishment of fenders and platform components at the berth #3 float, construction of a new pedestrian covered walkway structure over the existing sidewalk from the terminal building to the berth #3 approach, and the placement of cathodic protection anodes on existing pile supported structures at berths #1 and #3. The first phase of the project consisting of the dolphin upgrade, covered catwalk and utilities work will be completed in August 2016 and the Berth 3 side fender upgrades and utility work on the Berth 1 transfer bridge being completed in December 2017.

Ward Cove Layup and Working Berth Facility for AMHS

The Ward Cove facility project is still in negotiations between the state and EPA regarding the environmental aspects of the project and its potential to disturb the sediment cap. Funding is currently only available for design. Construction funding for functional replacement of South Berth or the rest of the facility has not yet been identified. Interest from NOAA in homeporting their ship there has dwindled.

AMHS Gustavus Terminal Improvements

In December 2013, a storm damaged the facility. The design and environmental document work is underway to make improvements to the facility and the project should be complete in December 2017.

Tenakee Springs Dock Replacement

Project scoping is underway and a conceptual alternative design has been approved by the city of Tenakee. Construction completion date is expected to be December 2017. The new facility will be capable of accommodating more classes of AMHS vessels to provide scheduling flexibility.

Kake Ferry Terminal Passenger Facility

The project provides for the construction of a new passenger terminal building with restrooms and improved uplands parking and staging areas. The work will also include placement of a new sewer and water utilities service to the new terminal. The project is expected to be completed in September 2016.

Waste Water Treatment System Replacement

The preliminary design work and environmental scoping is ongoing for the replacement of the wastewater systems at Auke Bay, Sitka, Haines, and Skagway. Skagway will be the first terminal to have its new waste water system installed which will consist of connecting the terminal and berth to the municipal sewer system prior to implementation of ACF service there.

Marine Transportation Advisory Board resolution supporting an expedited procurement process for the Alaska Class Ferry System, including consideration of the Construction Management/General Contractors (CM/GC) procurement process as the method for securing function detail design and construction of the Alaska Class Ferry

Whereas, the Marine Transportation Advisory Board is tasked by Alaska Statute to make recommendations to the Governor, Legislature and Alaska Department of Transportation and Public Facilities regarding the planning, mission, values and performance goals of the Alaska Marine Highway System, and;

Whereas, the Marine Transportation Advisory Board has recommended the immediate construction of new vessels for the Alaska Marine Highway System and support for building the Alaska Class vessel, and;

Whereas, the State of Alaska is ready and desires to procure marine vessel design and construction services to build the Alaska Class vessel in the best interest of the State, and;

Whereas, other procurement methods, where price is the sole or primary factor for determination of award, introduce risk to the State and the Contractor, and/or cause significant delay for development of bid documents, create an opportunity for artificially low bid documents, create an opportunity for artificially low bids, and potentially creates an adversarial relationship between the State and the Contractor, and;

Whereas, discussions have indicated that the ship building industry and the bonding industry prefer the risk mitigation features of this process and may not be interested in competing on a price base award process, and;

Whereas, Construction Management/General Contractor mitigates risk for both the Owner and the Contractor and has a track record of bringing in large, complex projects close to projected budgets and schedules, and;

Whereas, Construction Management/General Contractor includes a competitive bid process and provides the State opportunity to reject the Guaranteed Maximum Price and take the project out to bid, and;

Whereas, constructing the Alaska Class vessel in a shipyard located in the State would create significant economic benefit to the State for the first and subsequent marine vessels procured by the state, and;

Therefore, be it resolved that the Marine Transportation Advisory Board recommends the State of Alaska pursue the Construction Management/General Contractor procurement method modified to suit the activity of shipbuilding, maximize the Alaska bidder's preference and continue work toward building the Alaska Class vessel as soon as is prudently possible.

Mike Korsmo

Mike Korsmo, Chair