

Washington State Department of Transportation

Mari-Tech 2004 Conference



NEW AUTO FERRY PROCUREMENT PARTNERSHIP

Outboard Profile

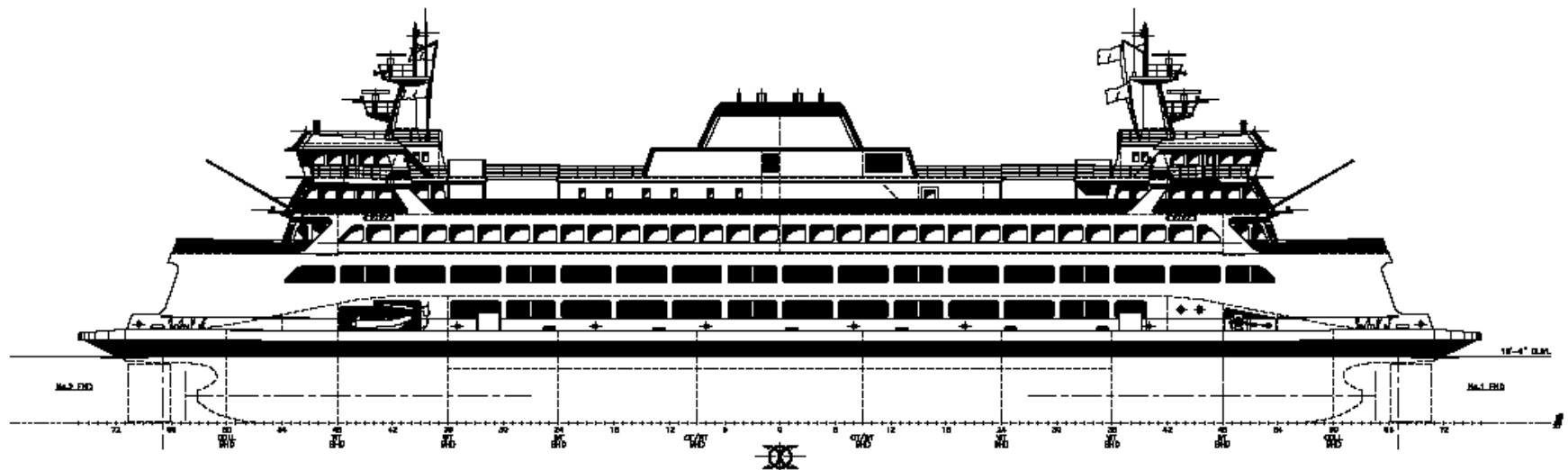


FIGURE 1 - OUTBOARD PROFILE

Requirement for New Ferries

<u>Replace</u>	<u>Age</u>	<u>Auto Capacity</u>
4 Steel Electric Class Ferries	Over 77 years old	75 cars (now 64 actual)
MV Rhododendron	54 years old	65 cars
MV Evergreen State	50 years old	100 cars

Steel Electric Class Ferry

MV Quinault



June 11, 2004

Issaquah Class Ferry

MV Sealth



June 11, 2004

Operating Requirements

- ◆ WSF needs capacities of -
 - 130 autos
 - 1200 passengers
- ◆ Will be similar to our six Issaquah Class Ferries
- ◆ Will give WSF 10 ferries as every day “work horses” with flexibility to use throughout ferry routes
- ◆ New design may be used for future new construction

WSF New Ferry History

- ❑ Procurement Partnership expected to help improve our procurement process based on following experience -
 - ❑ There were only two bidders on JUMBO MKII
 - ❑ Three bidders are highly desirable
 - ❑ WSF did not provide project price range
 - ❑ Winning bidder underestimated the project
 - ❑ Design prepared by the WSF
 - ❑ Shipbuilder had no involvement in design
 - ❑ Therefore had no responsibility for final product

January 2001 Audit

Audit of WSF Capital Program for Washington State Office Financial Management

- ◆ By Portland, Oregon firm of Talbot, Korvola and Warwick

Resulted in following premises -

- ◆ Construction of large expensive vessels be a partnership between the owner and the builder
- ◆ Construction Partnership must use and integrate the strengths of the parties
- ◆ Both parties must be involved with vessel design and equally share ownership of that design

Recommended that –

“... WSF seek legislative authority to allow use of a modified RFP process to procure large ferry new construction.”

WSF Procurement Partnership Design and Build process per the project RCW

- ❑ Requires modification of financial prequalification rules in order to maximize competition
- ❑ **Use three Phases in the procurement partnership process**
- ❑ Publish Notice of Intent to issue an RFP for new ferries
- ❑ **Award of the contract to the proposer with the lowest bid who submitted an approved Technical Proposal**
- ❑ Start vessel construction following WSF approval of detailed drawings
- ❑ Payment of an honorarium to proposers not winning construction contract
- ❑ Issue a modified RFP encompassing the various Phases

Consistency with Industry New Construction Design and Build Processes

- ❑ Development by owner of Specifications which provide vessel requirements
- ❑ Request proposals worldwide (nationwide for Alaska Marine Highway and U. S. Navy)
- ❑ Submission of initial proposals by shipbuilders
- ❑ Selection of two or three proposers to develop designs and specifications
- ❑ **Award to proposer with most advantageous proposal (not the lowest bidder)**
- ❑ Successful in the private sector shipbuilding industry, Alaska Marine Highways, and U.S. Navy

WSF RFP to include following

- ☐ Build in Washington
- ☐ **Prequalification of Shipyard**
- ☐ WSF Outline Specifications
- ☐ Owner's Model Design
- ☐ Owner Furnished Equipment
 - ☐ Federal funds
 - ☐ Propulsion Systems
 - ☐ SS Diesel Generators
- ☐ **Maximum number of proposers (up to 3 Best Qualified)**
- ☐ Instructions for Preparation of Technical Proposals
- ☐ **Honoraria to unsuccessful proposers (\$500K)**
- ☐ Vessel delivery schedule
- ☐ Delivery in Puget Sound, etc.
- ☐ Estimated price range for 4 vessels (\$183M – \$223M)
- ☐ Required bid deposit and contract security
- ☐ Criteria for selection of proposers for Phase II
- ☐ Process for bidding, evaluation and award for Phase III
- ☐ **Award Construction Contract to the lowest bidder**

Three Phases in the Modified RFP and Design and Build Partnering Process

Phase 1 – Evaluation and selection of a limited number of shipyards (proposers) to participate in development of Technical Proposals.

Phase 2 - Preparation of Technical Proposals by selected proposers in consultation with WSF.

Phase 3 – Award a contract to the lowest bidder, who shall prepare the detailed design and construct the vessels.

Preparation Phase

The 3 Phases of the RFP are preceded by a Preparation Phase for –

- ◆ Development of Outline Specs
- ◆ Development of an Owner's Model Design
- ◆ Procurement of OFE
- ◆ Preparation and issuance of the RFP

Phase One

WSF evaluates proposals from prequalified shipyards

Selection Criteria -

- ◆ Shipyard facilities
- ◆ Design capability
- ◆ Build Strategy
- ◆ Experience and past performance
- ◆ Organization, systems and Procedures

Phase One

WSF selects the best qualified proposers (up to three) to develop Technical Proposals in consultation with WSF in Phase Two.

(End of Phase One)

Phase Two

Development of Technical Proposals

Selected proposers develop Technical Proposals in accordance with RFP

Technical Proposals consist of –

- Design and Specifications sufficient to depict ferries' characteristics, identify installed equipment and guide construction of the vessels
- Drawings showing arrangements, equipment and details necessary for preparing an estimate and development of a firm, fixed price bid
- Project Schedule including vessel delivery dates
- Other project and design items deemed appropriate

Phase Two

WSF Periodic Review of Proposers' Work in Progress

- ◆ Selected Proposers develop Technical Proposals
- ◆ Reviews conducted separately with each proposer
- ◆ Reviews held to ensure Technical Proposals –
 - Meet WSF requirements
 - Are responsive to critiques conducted during the development of Technical Proposals

Phase Two

Selection of Proposer for Construction Contract

WSF requests bids

- Only from proposers that have Technical Proposals "Approved" by WSF
- Bids are based on respective Technical Proposals and RFP
- Bids are for detailed design and construction of the ferries

(End of Phase Two)

Phase Three

Award of Construction Contract

Bid evaluation and selection

- After Bid opening, WSF evaluates bids
- Award is made to the responsive and responsible proposer with the lowest total bid price

Phase Three

Honoraria for Unsuccessful Bidders

WSF will reimburse unsuccessful bidders

- For a portion of their Technical Proposal preparation costs
- A fixed preset amount (\$500K)

Phase Three

Detailed Design and Construction of Vessels

- ◆ Successful bidder executes the Contract with WSF
- ◆ Contractor prepares detail design in accordance with its technical proposal
- ◆ WSF reviews detail design for conformity with the bidder's Technical Proposal and WSF requirements
- ◆ Contractor constructs and delivers the ferries.

(End of Phase Three)

Implementation - Preparation Phase

- ◆ Formed a New Ferry Design Team (NFDT) consisting of
 - WSF Vessel Steering Committee along with Naval Architect and Marine Engineering Consultants
 - **Elliot Bay Design Group**
Initial hull form, passenger access, general arrangements, structural fire protection and outfitting
 - **Jensen Maritime Consultants**
Structural design and electrical engineering content
 - **The Glosten Associates**
Marine engineering studies, hull form, computational fluid dynamic optimization, model testing, machinery arrangements, HVAC and coordination of the NFDT
- ◆ Tasked with development of
 - Outline Specifications
 - Owner's Model Design

Preparation Phase . . .

☐ Outline Specifications

☐ MARAD Format

☐ Will include -

- State requirements for both Phase II and Phase III design, and construction, testing and trials of the vessels
- Each Spec Section will include requirements for Deliverables for Phases II and III
- Quality requirements for equipment, materials, systems and processes.
- Requirements for Administration; Schedules; Quality Assurance and Control; Drawings; Health, Safety and Security; Weight Control; and other items typically found in WSF Specifications

Preparation Phase . . .

- ❑ In addition to Outline Specs, WSF is providing an
 “Owner’s Model Design” in the modified RFP
 - ❑ An illustrative example of vessel design features that meet the requirements of the Outline Specifications
 - ❑ Prepared by WSF to assist those proposers in their design development
 - ❑ A partial ferry design **provided for information and use as desired**
 - ❑ Because of preliminary nature, it is not warranted by WSF on its own or as a basis for further design effort
 - ❑ Will consist of a technical report and drawings.

Owner's Model Design - Hull Design

◆ Hull forms reviewed for

- General Arrangement
- Dimensions
- Displacement
- Speed
- Propulsion requirements
- Capacities
 - ◆ Autos
 - ◆ Passengers
- Passenger Space Characteristics
- Interface with WSF terminals

◆ Computational Fluid Dynamics with Numerical Optimization -

- Improved resistance and powering performance, and fuel efficiency

◆ Finite Element Analysis –

- Refine hull structural features of the Owner's Model Design

Body Plan

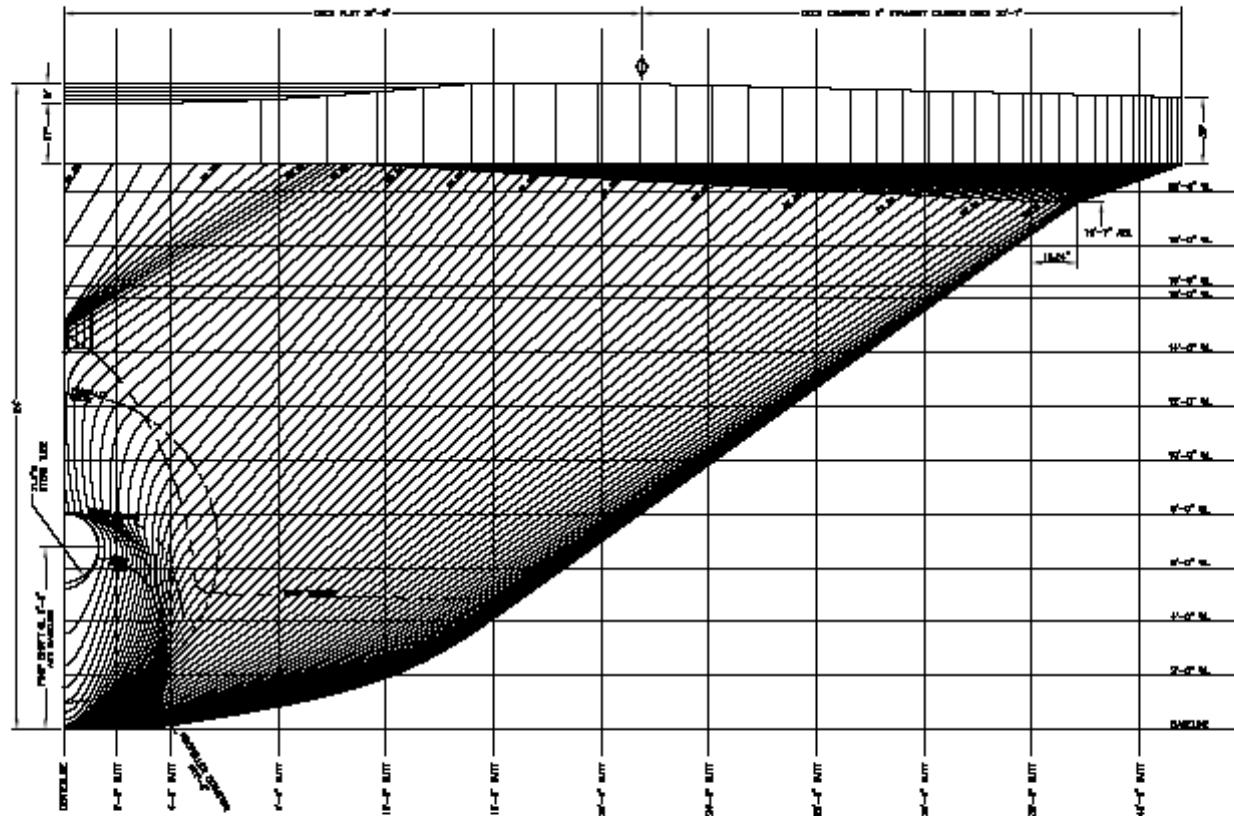


FIGURE 2 - BODY PLAN

Model Testing

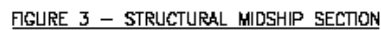
Conducted at SSPA in Sweden to -

- ◆ Verify Owner's Model Design hull form –
 - Resistance and powering requirements
 - Maneuvering characteristics
- and
- ◆ Provide wake survey input for propeller design

Model Testing

Hull Model









TOTAL SEATS: 942



Inboard Profile

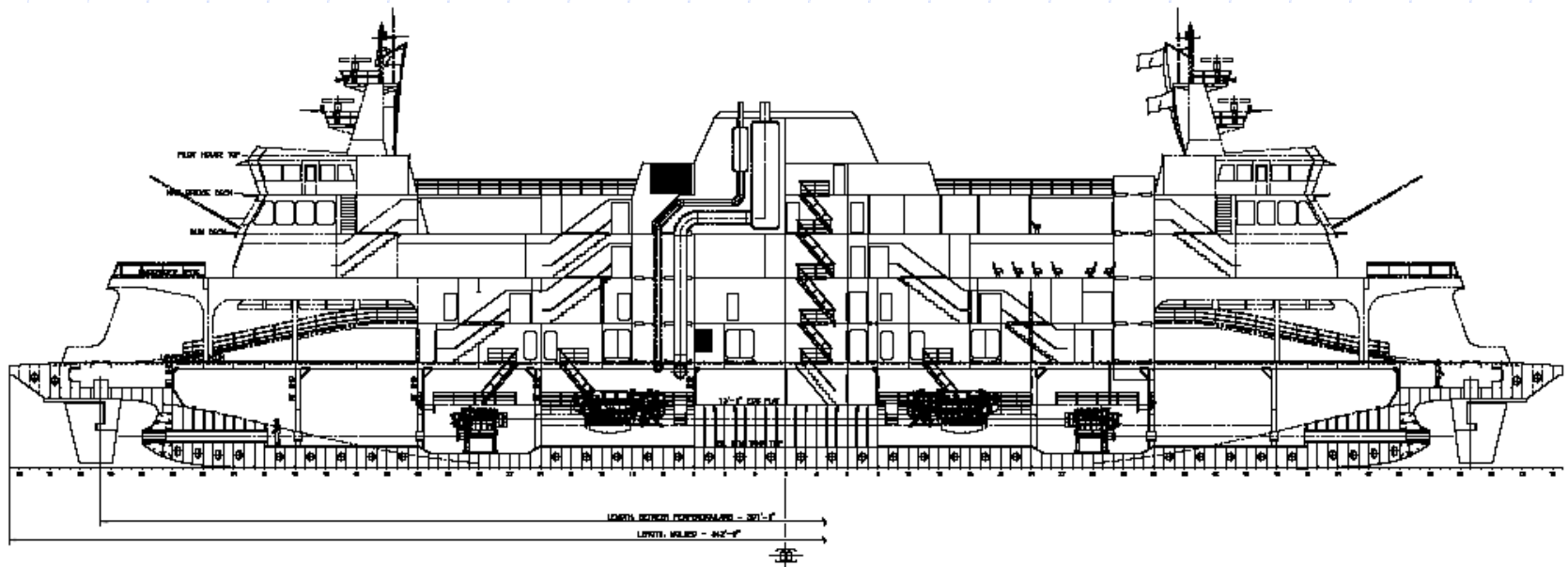


FIGURE 8 — INBOARD PROFILE
LOOKING PORT

RFP Contents

Volume IA	Phase I	Prequalification
Volume IB	Phase I	Proposer Information
Volume II	Phase II	Technical Proposal Requirements
Volume III	Phase III	Contract Provisions
Volume IV		Outline Specifications
Volume V		Owner's Model Design
Volume VI		Owner Furnished Equipment

Phase I – Issuance of the RFP

- ◆ To be issued in segments to expedite process (Since Outline Specs will not be complete until September 2004)
- ◆ Allow certain actions to go forward -
 - Issue info on prequalification requirements
 - Receive Prequal info from interested shipyards
 - Make Prequal verification visits by WSF to shipyards

Prequalification Requirements

❑ RCW requires Prequalification for prospective proposers followed by selection of the **Best Qualified** proposers to participate in Phase II.

❑ Special Prequalification Requirements

- Shipbuilding experience
- Ability to manage the project
- Facilities for constructing vessels of this size and complexity

❑ “Financial” Prequalification Requirements

Volume IA – Prequalification Requirements

- ◆ Issued on December 3, 2003
- ◆ Special Prequalification info received from interested shipyards on March 19, 2004
- ◆ Shipyard verification visits by WSF completed June 8, 2004
- ◆ Evaluation of Special Prequal in progress
- ◆ Special Prequal determination by WSF expected in July 2004

WAC Rule Change for “Financial” Prequalification of Proposers

❑ Existing Rule (WAC 468-310-050)

- “*The Maximum Capacity Rating*” for a contractor ... will be ten times the contractor’s net worth
- A provision in RCW 47.60.816 requires WSF to modify the financial prequalification rules for this procurement process “*...in order to maximize competition among financially capable and otherwise qualified proposers.*”

WAC Rule Change for “Financial” Prequalification of Proposers

- WSF is seeking a rule change whereby –
 - Proposers shall, in lieu of the Maximum Rating criteria, submit evidence of the ability to obtain **Contract Security** in the amount to protect 100% of WSF’s exposure to loss associated with the Vessel Construction Contract. (The amount of Contract Security, calculated in accordance with WAC 468-320-030, was determined to be \$13,000,000)
and
 - Reducing the number of annual **audited financial statements** to be submitted by proposers (three statements currently required)
- Hearing on rule change was held on April 27, 2004 and the rule change will be effective in June 2004

Volume IB Proposer Information

- ◆ Issued March 10, 2004
- ◆ Provides info on selection for participation in Phase II, Development of Technical Proposals including –
 - Proposal Instructions
 - Proposal Requirements
 - Proposal Evaluation

Volumes II thru IV

To be issued September 2004

- ◆ Volume II – Technical Proposal Requirements provides –
 - Description of process for development , review and submission of Phase II Technical Proposals by proposers
 - Required deliverables during Phase II including
 - ◆ Materials lists
 - ◆ Contract design drawings
 - ◆ Standards of construction and testing
 - ◆ Other items as described in the Outline Specs

Volume III – Contract Provisions

◆ Provides –

- Bidding Instructions for those proposers who have Technical Proposals approved in Phase II; and
- The shipbuilding Contract for detailed design and construction of the new ferries in Phase III

Volume IV Outline Specifications

- ❑ WSF requirements for Phase II proposals and Phase III design and construction of the new ferries
- ❑ Requirements for conformation to WSF standards and operational needs including –
 - Quality
 - Materials
 - Quantities
 - Workmanship

Volume V Owner's Model Design

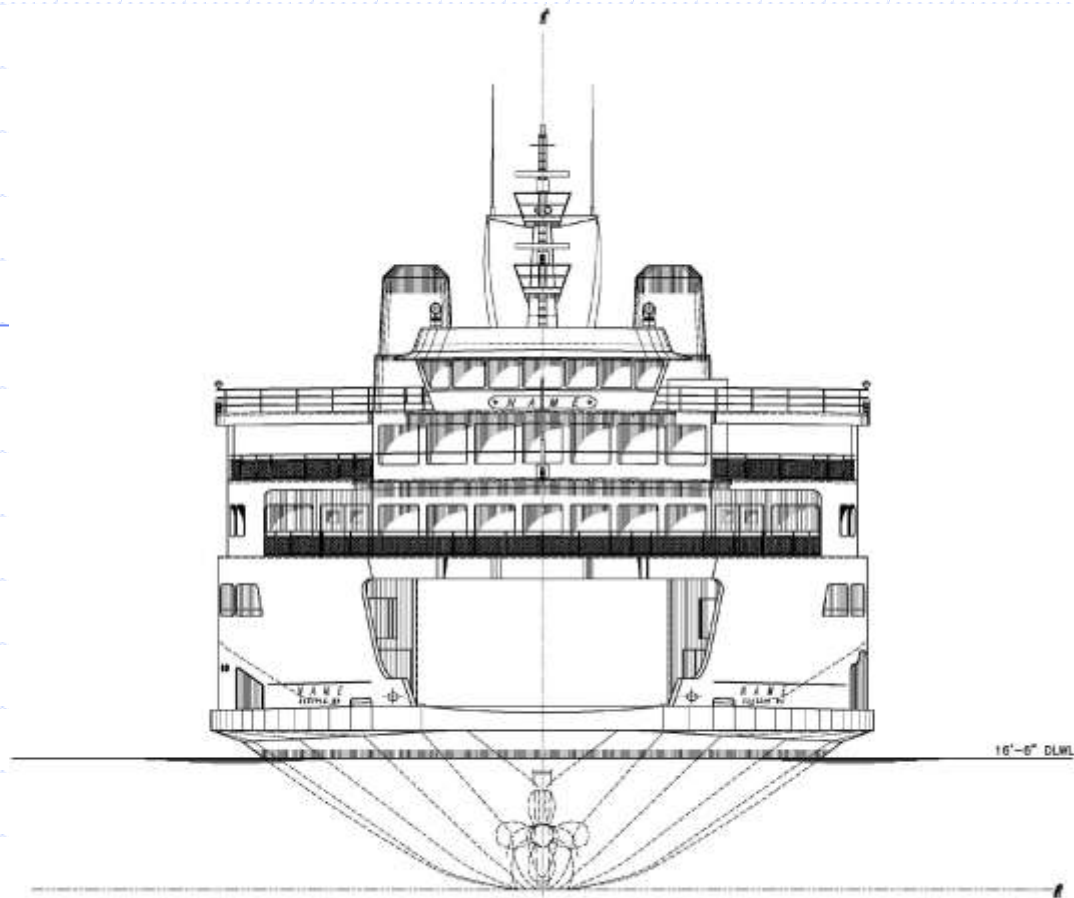
Provided for information -

- ◆ Developed to aid in identification of WSF requirements and preferences
- ◆ One or more passes through the traditional ship design spiral to –
 - Establish that WSF requirements are achievable
 - Exhibit WSF arrangement preferences
 - Support WSF cost estimate

Volume VI Owner Furnished Equipment

- ◆ Included to help proposers understand technical detail of federally funded –
 - Propulsion Systems
 - Ships Service Diesel Generator Sets
- ◆ The separate RFPs will provide additional design information for use in Phase II Technical Proposals and to support the shipyard bids.

End View



END VIEW
NO. 1 END SHOWN
NO. 2 END SIMILAR