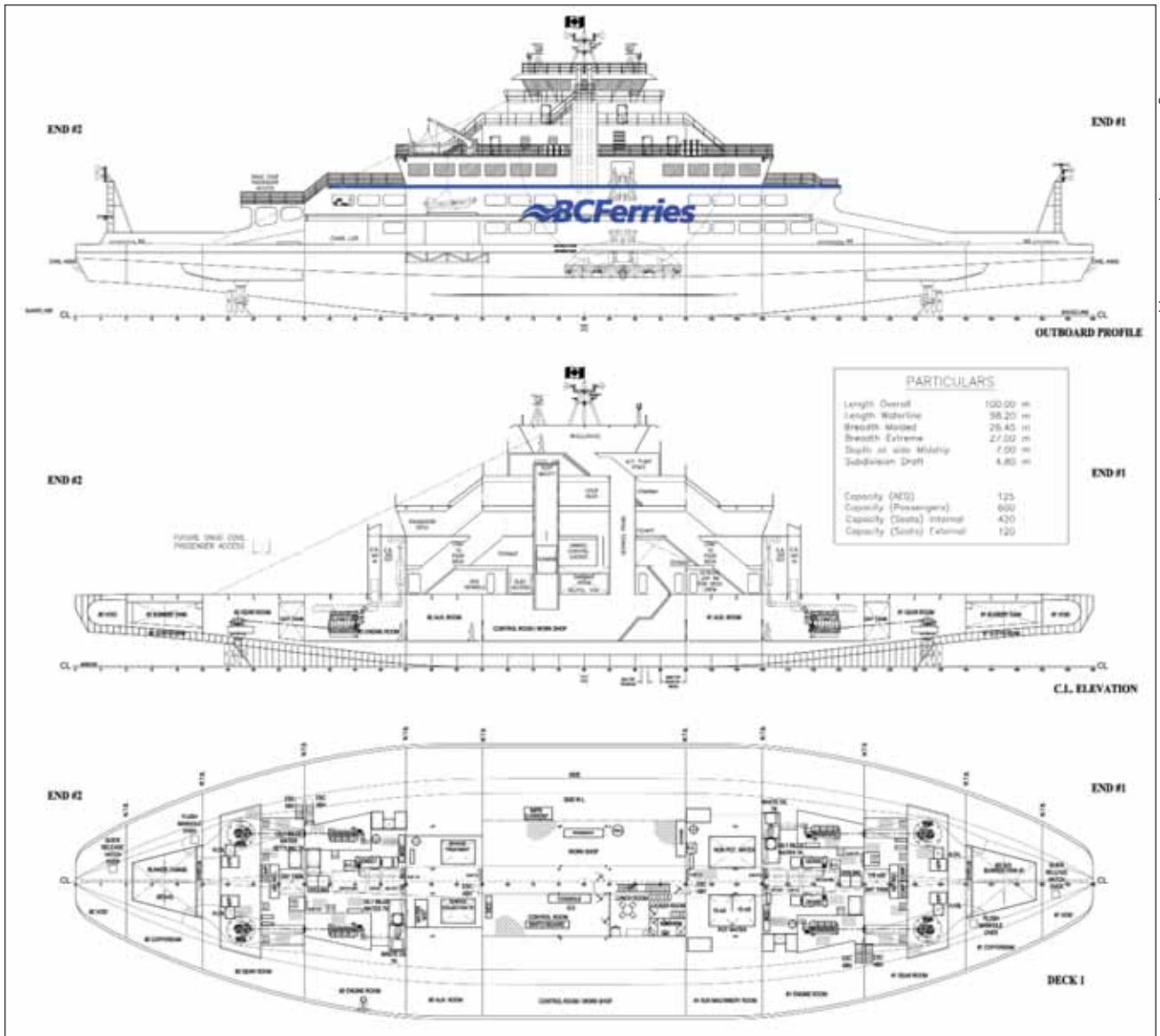


# 'Unit Assembly' at Vancouver Shipyards

## BC FERRIES' NEW INTERMEDIATE-CLASS FERRY

By Rob Morris

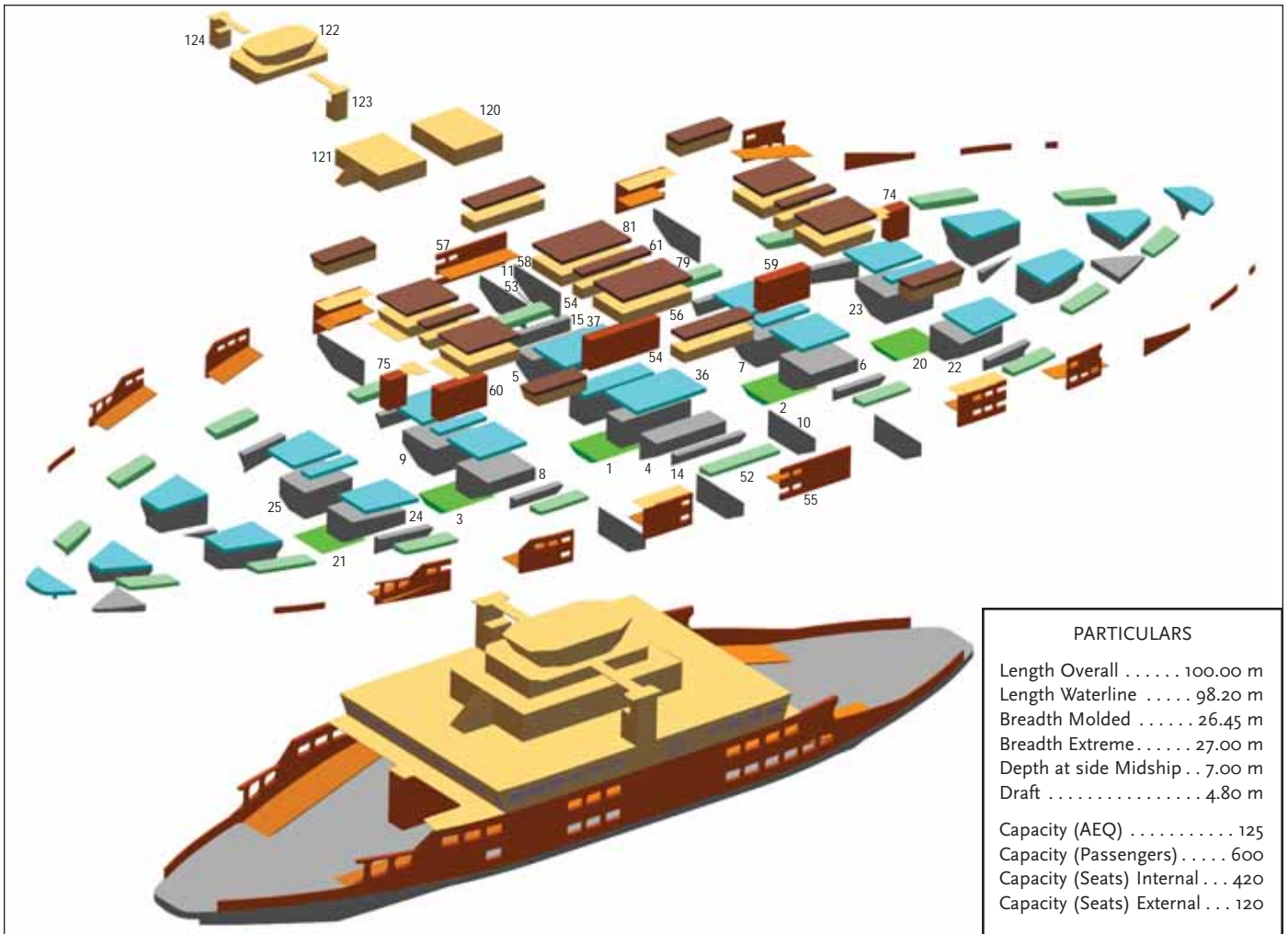


General Arrangement courtesy Vancouver Shipyards

**B**C Ferries' new Intermediate-class ferry is being constructed at Vancouver Shipyards using a 'unit assembly' building procedure. The entire vessel consists of 124 separate units or blocks and they are being assembled in a sequence as illustrated by the unit sequence diagram (see next page) produced by the Vancouver Shipyards design department.

As Norman Whyte, project manager for the 100-m Intermediate-class Ferry at Vancouver Shipyard, describes, unit assembly maximizes the pre-outfitting of units before they are incorporated into the overall vessel assembly. For example, while the hull units are being assembled other units that house the main engines and drives are being pre-fitted with the propulsion machinery

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## Unit sequence diagram for the 100m Intermediate-class Ferry

Unit name (location in ship)	Unit Colour	Unit Number
hull double-bottom	lime green	1, 2, 3, 20, 21
hull single bottom	gray	4-9, 14, 15, 22-25
deck sponsons	olive (light) green	52, 53
watertight subdivisions (athwartships)	dark gray	10-13
main car-deck	light blue	36, 37
casings	red brown	54, 59, 60
casings (air intake/exhaust)	red-brown	74, 75
passenger accommodation deck	beige	54, 56, 58
outside passenger deck	dark brown	61, 79, 81
side shell panels	rust	55, 57
gallery deck (joined to side shell)	orange	--
crew deck	beige	120, 121
bridge, wheelhouse	beige	122, 123, 124

1. The diagram's colours and numbers denote show the sequence of assembly of the units.  
 Note: The original diagram from the Vancouver Shipyards Design Dept has all 124 units numbered. For clarity purposes the above diagram does not include all those numbers. Where a multiple of one unit-type is being used in the assembly, the numbers indicate the first of those unit-types to be incorporated in the assembly sequence. For example #36 and #37 are the first two units of 23 total main car-deck units.  
 2. In the lower diagram of the complete ferry the beige area depicts the wheelhouse/bridge/accommodation assembly which will be lowered onto the hull, car-deck and side-shell panels (with gallery deck) assembly after it is launched.

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and systems. Likewise, the bridge and wheelhouse will be built as a separate unit and pre-outfitted.

Ship Constructor software is being used to generate plate nesting and assembly drawings and the shipyard has installed a new CNC plasma cutter for cutting and marking plate. Another advantage of unit assembly is that the ferry's units can be constructed at the main shipyard site on the North Shore of Vancouver Harbour then trucked a couple of miles east along the harbour to the ferry assembly building at Pier 94. The plan is to launch the ferry when the hull, car deck and side-shell panels are assembled and outfitted then lower the pre-outfitted

wheelhouse and passenger accommodation units as one assembly onto the hull.

In June, 2006 BC Ferries awarded Vancouver Shipyards the contract to design and build one ro-ro vehicle passenger ferry with capacities for 125 vehicles and 600 passengers. The double-ended, all-steel ferry will be 100 m (328 ft) long with 27 m (88.5 ft) beam and a molded depth of 7 m (23 ft) and is a new design from Vancouver Shipyards which will meet Lloyd's Register and Transport Canada regulations, including SOLAS and IMO rules. ◀



Photo courtesy Vancouver Shipyards

*The ferry's assembly changes daily in Vancouver Shipyards' 'W' building at Pier 94 in North Vancouver. This photo shows the assembly progress as of February 12, 2007. Hull double-bottom units #1 (midships), #3 (forward) and #2 (aft) are in place and hull single-bottom units #4 and #5 are joined to unit #1. Single-bottom units #34 and #35 are a port workshop and starboard control room (see GA on page 14) which fit on top of unit #1. Unit pairs #6 & #7 and #8 & #9 are the auxiliary machinery spaces which fit on top of units #2 and #3, respectively. Double-bottom unit #21 (with main engine units #24 & #25 fitted on top) and double-bottom unit #20 (with main engine units #22 & #23) will be next to be fitted fore (left) and aft on the assembly in the photo.*