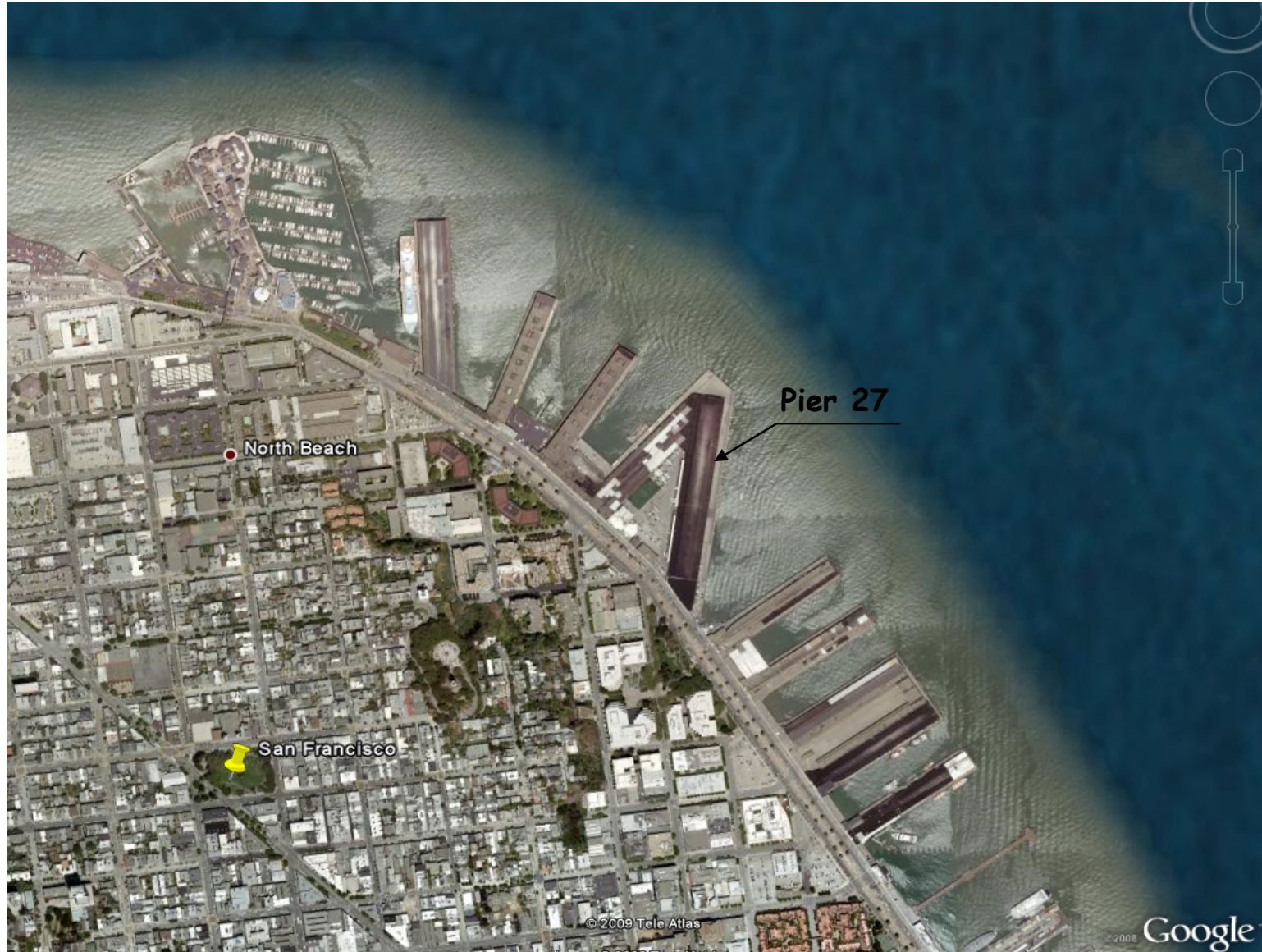


NORMANDIE / OTELLO / VOYAGER / CRUISE-MAX

OBJECTIVE :

Docking pier

San Francisco : Pier 27



NORMANDIE container ship and ... (ship's dimensions in meters)



6 000 m²
windage

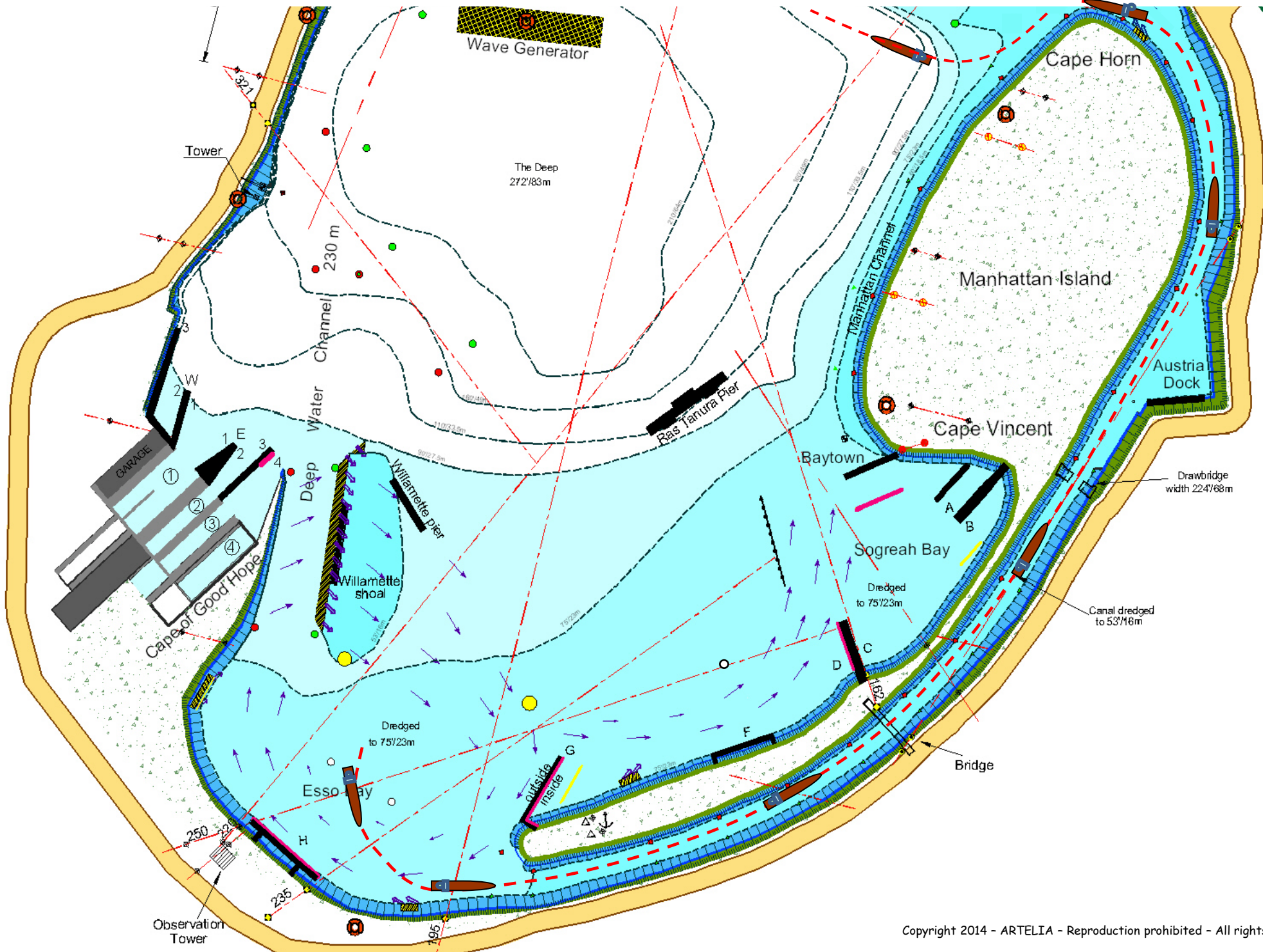


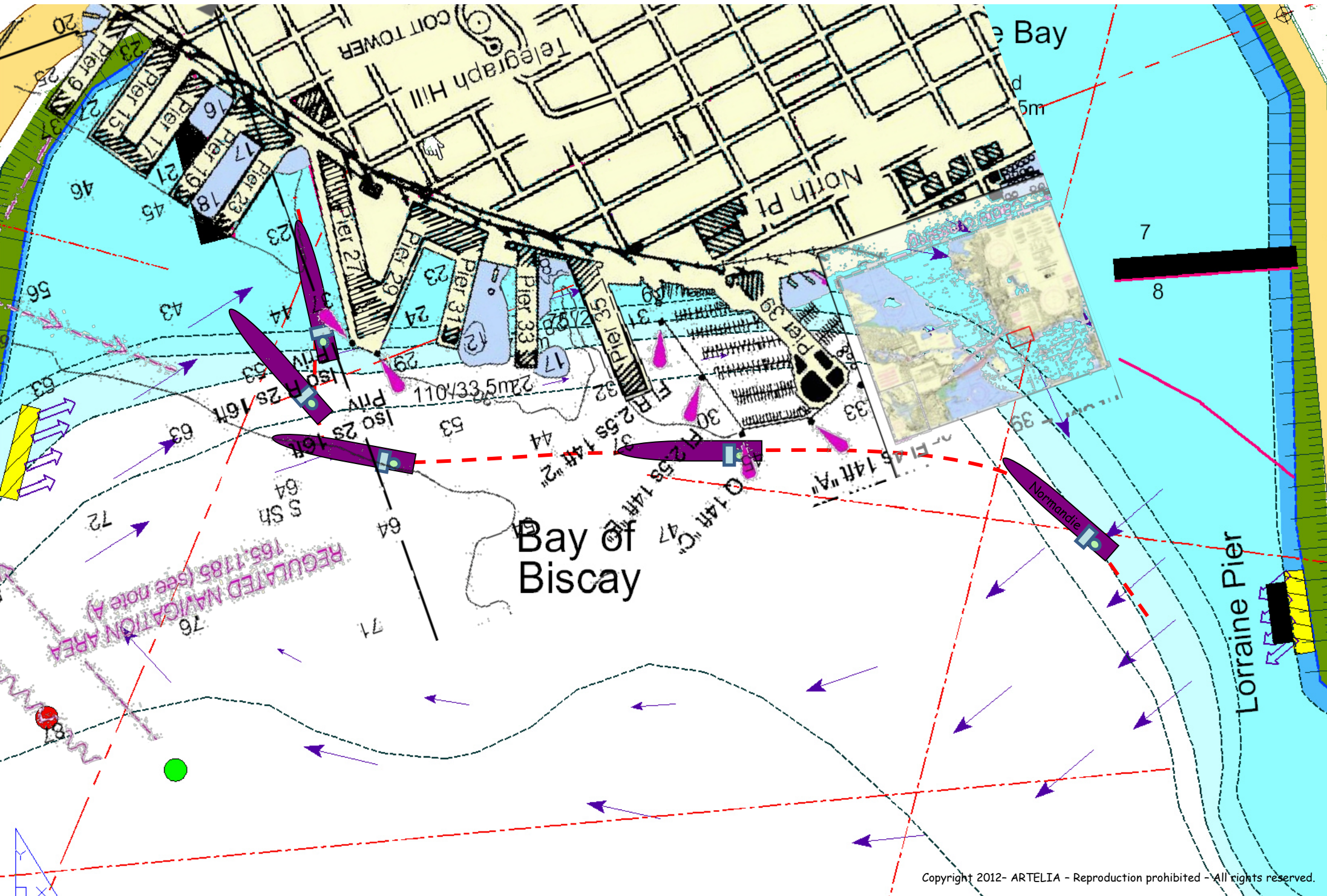
car carrier and ...
cruise ship ...

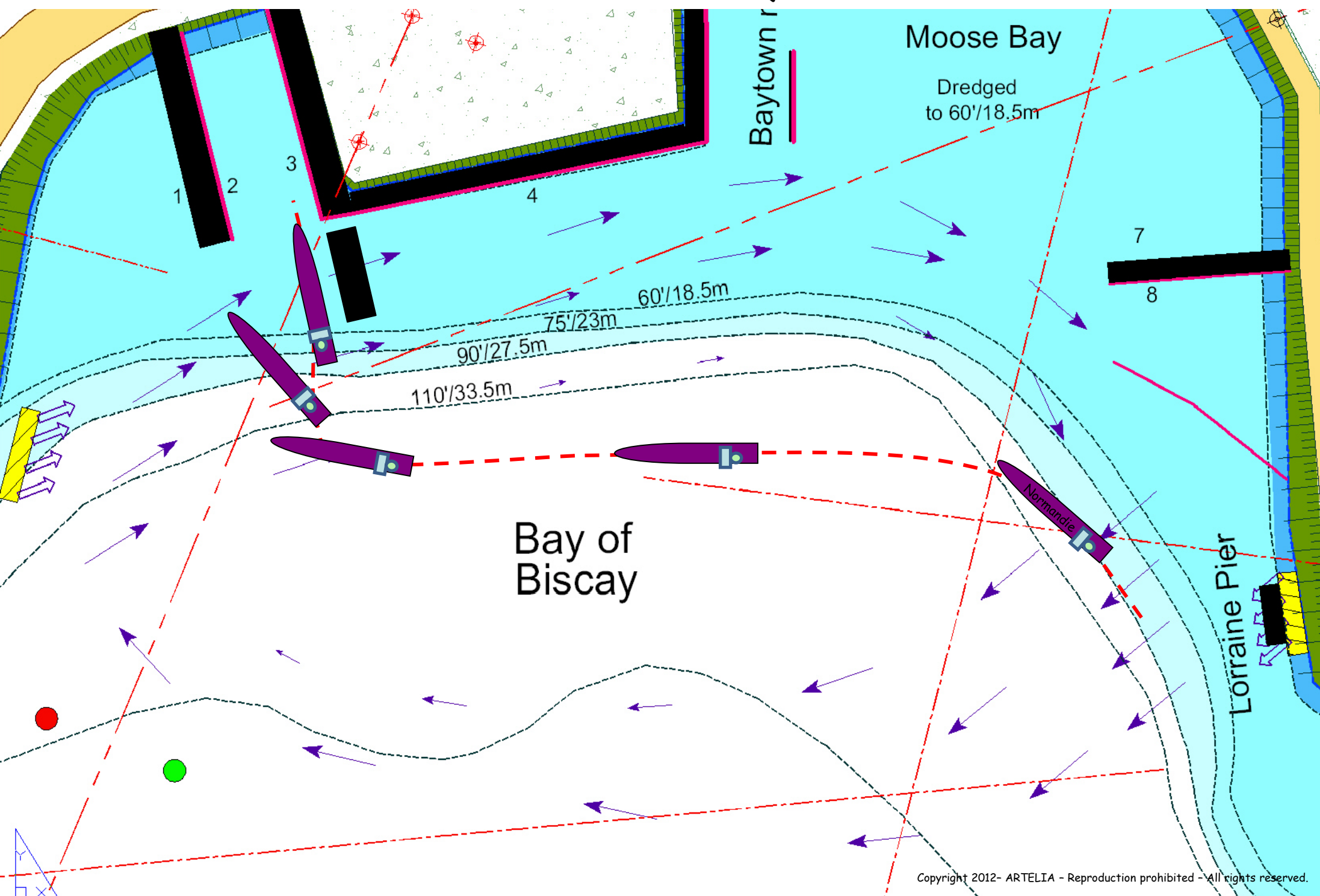


		NORMANDIE 4 400 TEU	
Length o.a			11,00
			275
Breadth			1,48
			37,10
Loaded draught			0,5
			12,40
Loaded displ.MT			4,67
			75 000
Ballast draught	F	NO CHANGE	
	A	NO CHANGE	
Ballast displ.MT	NO CHANGE		
Normal S.H.P.			0,66
			52 000
Angular rudder rate (Deg/sec)			14,0
			2,8
Bow thruster S.H.P.	Stern thruster S.H.P.	0,050	0,050
		3 000	3 000
Chain lenght			
Block coefficient	0,60		

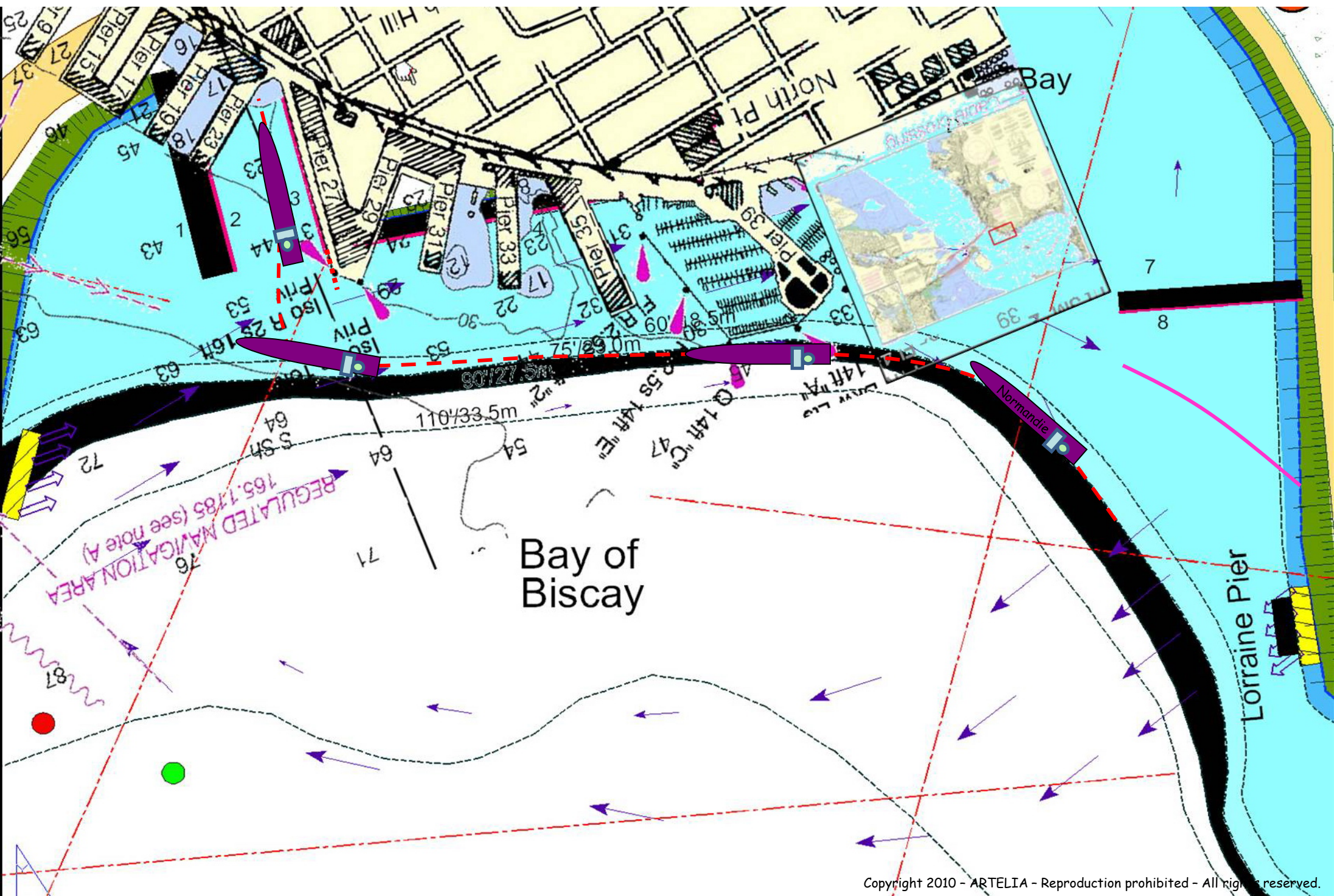
VOYAGER / NORMANDIE : Suez Canal S/N to Pier 3.



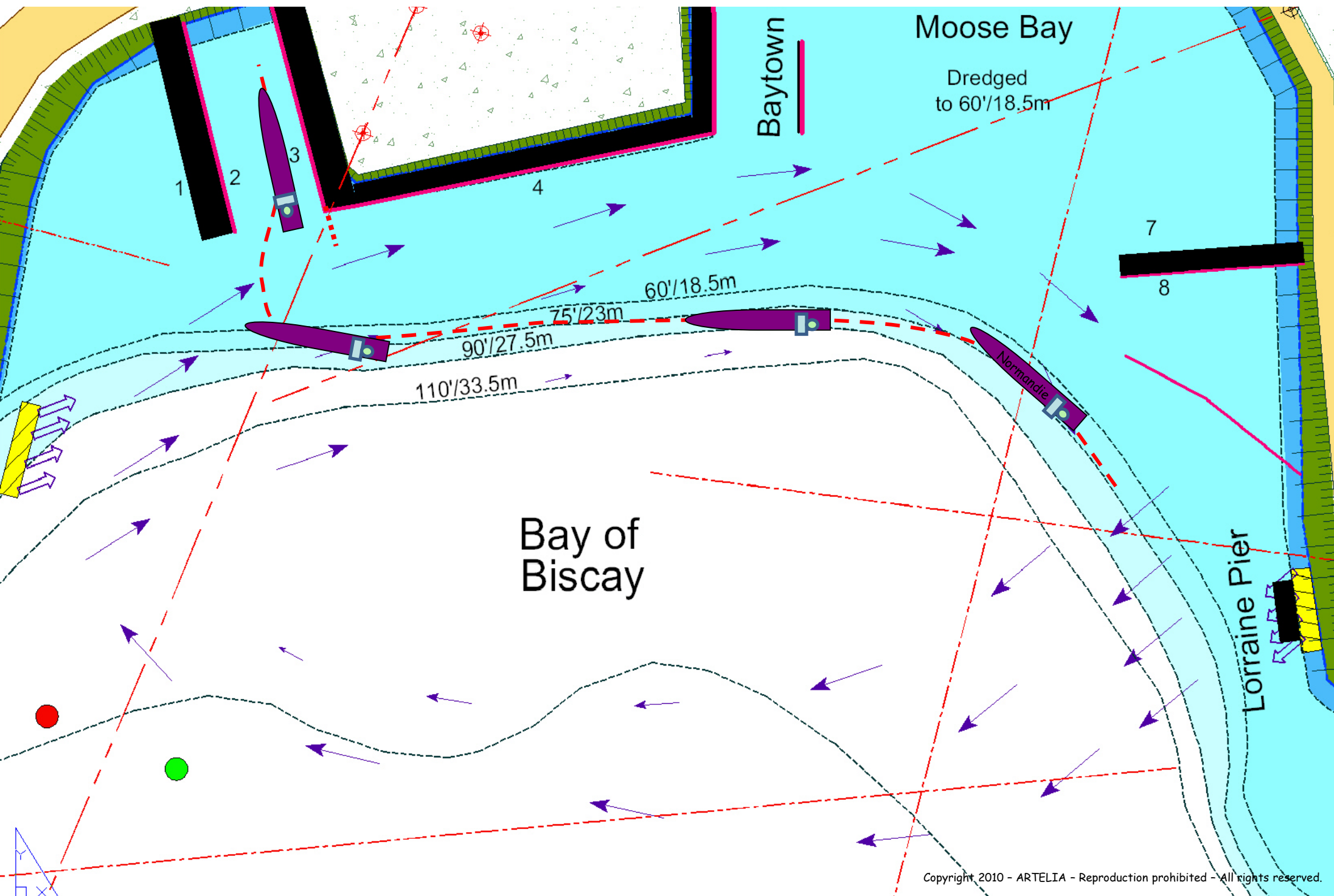




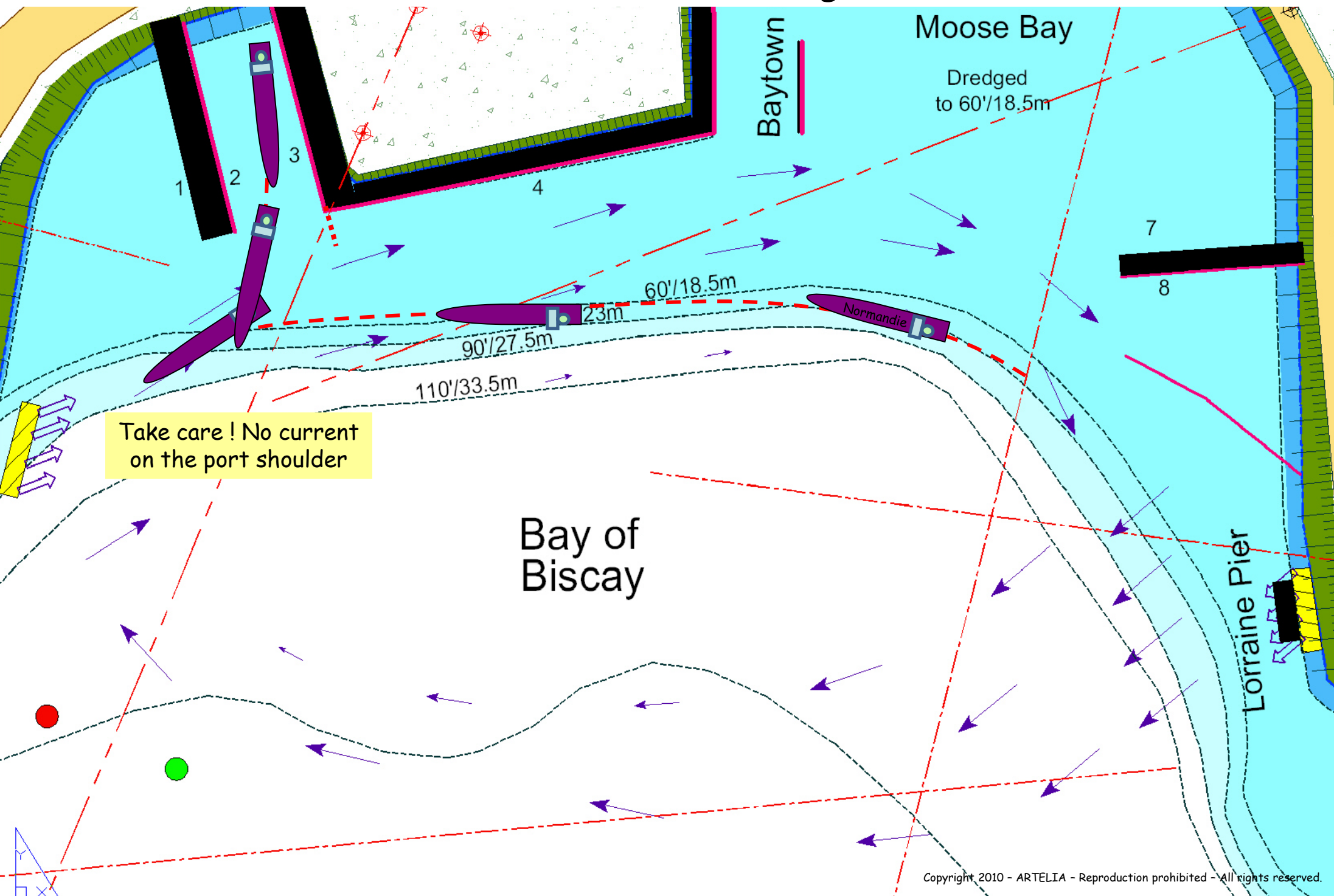
NORMANDIE / OTELLO : Pier 27 EBB tide



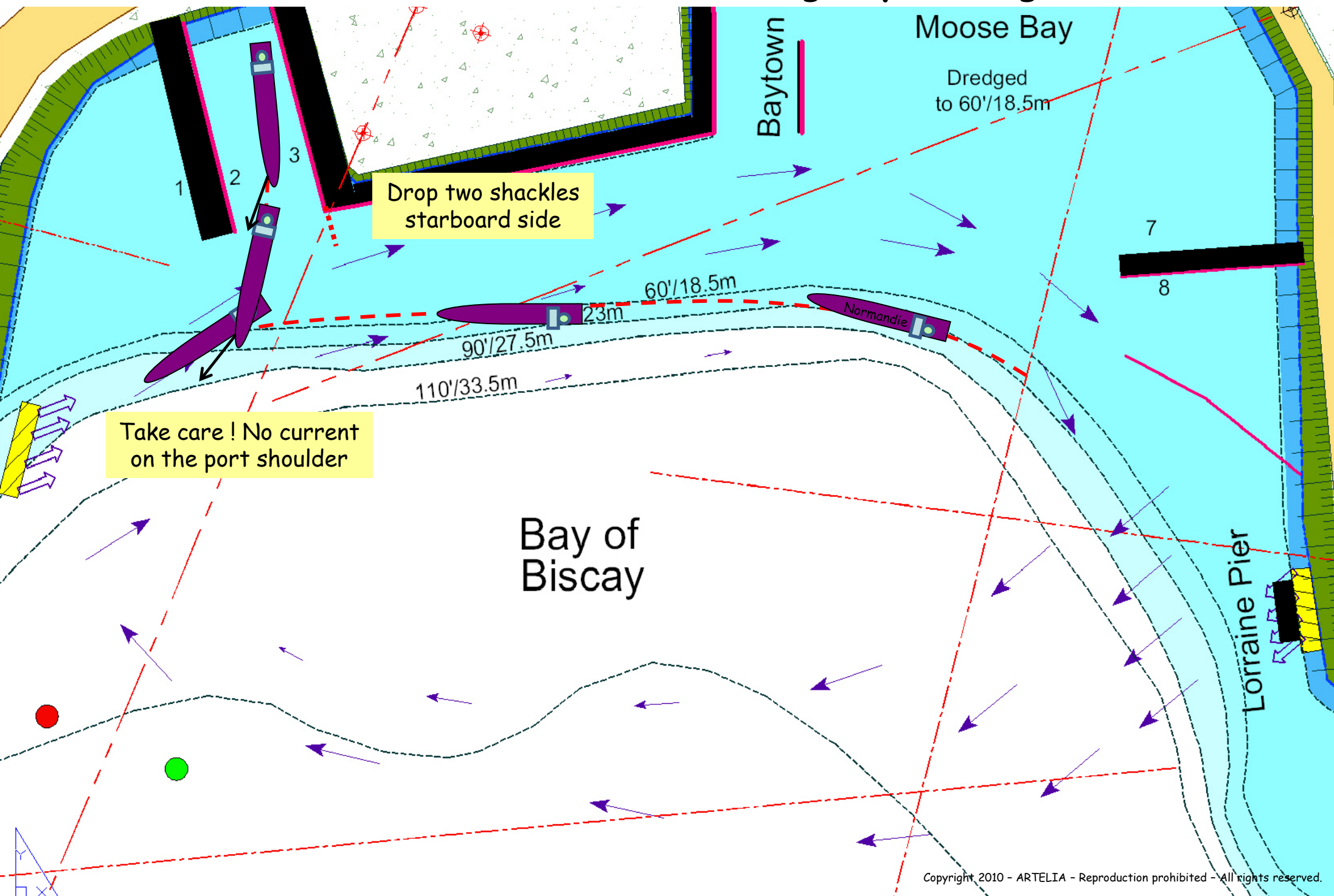
NORMANDIE / OTELO : Pier 27 EBB tide = current CW



NORMANDIE : Pier 27 docking stern first

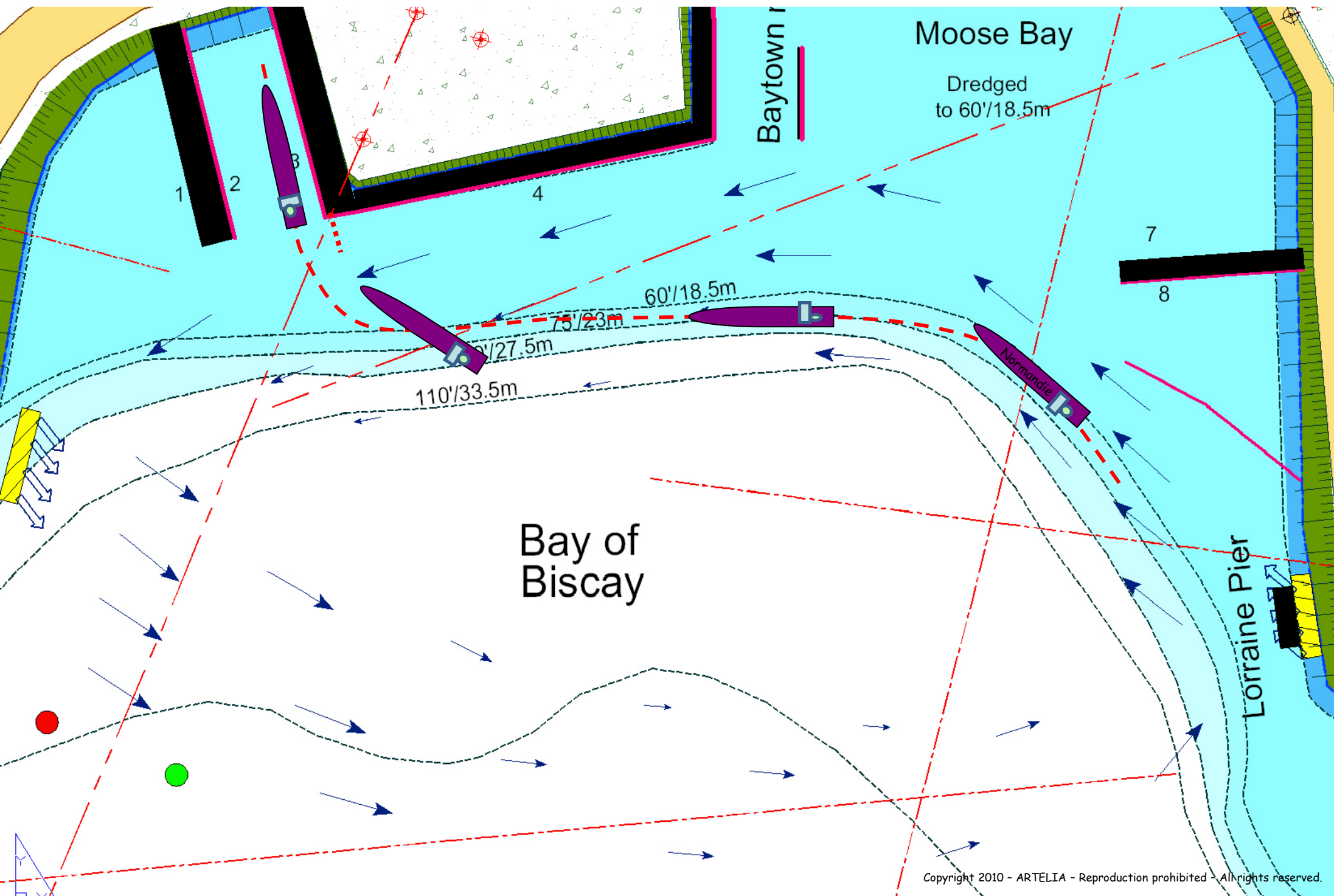


NORMANDIE : Pier 27 Emergency docking



- Diapo suivante CCW
 - Flood tide

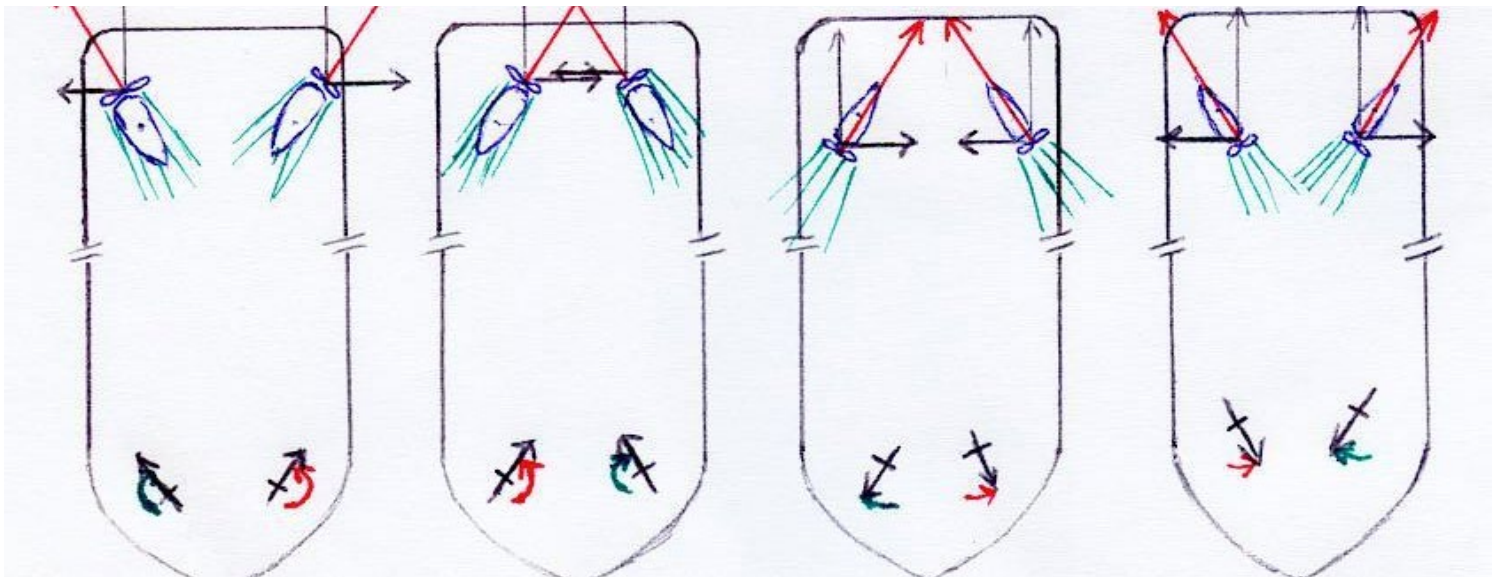
NORMANDIE / OTELLO : Pier 27 FLOOD tide = current CCW



Different mode to steer astern

Ergonomics	+	-	-	+
Wash	-	+	++	--
Arm lever	++	--	+	-
Rpm	+	+	-	-

Pods 150°stb 150°pt 150°stb 150°pt 30°stb 30°pr 30°pt 30°stb



OTELLO container ship (ship's dimensions in meters)



The Otello has variable
Draught : 10 m to 14.5 m

**NB : increasing and decreasing
rpm between half and full
takes much time ...**

10 000 m²
max windage



		OTELLO 8 500 TEU		
Length o.a			13,36	
			334	
Breadth			1,71	
			42,80	
Loaded draught			0,58	
			14,50	
Loaded displ.MT			8,64	
			135 000	
Ballast draught	F			0,41
				10,20
	A			0,41
				10,20
Ballast displ.MT			0,41	
			10,20	
Normal S.H.P.			1,19	
			93 000	
Angular rudder rate (Deg/sec)			12,5	
			2,5	
Bow thruster S.H.P.	Stern thruster S.H.P.	0,10	0,050	
		3 500	1 750	
Chain lenght			16,5	
			412,5	
Block coefficient			0,67	

Cruise-Max LNG carrier (ship's dimensions in meters)



**The Q-Max has twin-screw
inward turning propellers
and 9 000 m² max windage**



**She has twin-screw and
2 Becker rudders**

		Q-MAX 266 000 m³	
Length o.a			13,80
			345
Breadth			2,15
			53,80
Loaded draught			0,48
			12,00
Loaded displ.MT			11,52
			180 000
Ballast draught	F	0,37	
		9,30	
	A	0,37	
		9,30	
Ballast displ.MT			8,45
			132 000
Normal S.H.P.			2 X 0,33
			2 X 26 000
Angular rudder rate (Deg/sec)			13,0
			2,6
Bow thruster S.H.P.	Stern thruster S.H.P.	0,10	0,10
		7 000	7 000
Chain lenght			14,70
			367,5
Block coefficient			0,79

VOYAGER podded cruise ship (ship's dimensions in meters)



2 azimuthing pods
1 fixipod

12 000 m²
max windage



		VOYAGER 5 000 pers	
Length o.a			12,44
			311
Breadth			1,54
			38,60
Loaded draught			0,34
			8,60
Loaded displ.MT			4,1
			64 000
Ballast draught	F		0,34
			8,60
	A		0,34
			8,60
Ballast displ.MT			4,1
			64 000
Normal S.H.P.			0,47
			37 000
Angular rudder rate (Deg/sec)			37,5
			7,5
Bow thruster S.H.P.	Stern thruster S.H.P.	0,15	-
		12 000	-
Chain lenght			16
			400
Block coefficient			0,60