



Presentation made to participants of the
Northern Transportation Conference 2011

Session 7: Transportation Challenges in
Northern Communities

September 20, 2011

MODULAR WHARF: an alternative solution

TULAKTARVIK

INTRODUCTION

Tulaktarvik: Partnership between Qikiqtaaluk Corporation and Ocean

Overview

Modular floating wharf

Achievements

Advantages

Design criteria

Other services

Questions

INTRODUCTION

- Fleet of 25 tugs
- 10 Z-drive tugs (ASD)
- Fleet of 350 barges
- Fleet of 19 workboats
- 10 business locations in Canada
- From 450 to 550 employees (depending on season)
- 1 shipyard
- Over 25 years experience in maritime services



SERVICES

- HARBOUR TOWING and ICE MANAGEMENT
- PILOT BOATS
- TRANSHIPMENT AND SUPPLY SERVICES
- LONG DISTANCE TOWING
- INDUSTRIAL and TOPSIDE SHIP REPAIR
- SHIPYARD
- SALVAGE and REFLOATING
- MARITIME EQUIPMENT RENTAL
- DREDGING
- **INSTALLATION OF MODULAR FLOATING WHARVES**



MODULAR FLOATING WHARVES

Lack of marine infrastructure

Quick replacement following an incident

Alternate solution to conventional wharfs in a protected zone



MODULAR FLOATING WHARVES



Baffin Island
BAFFINLAND IRON MINES Project
2007-2008

MODULAR FLOATING WHARVES

Installation was carried out with:

- 1 hydraulic shovel
- 1 workboat
- 8 workers during 5 days



MODULAR FLOATING WHARVES



300 ft x 25 ft – Environmentally friendly and cost effective
Carrying capacity of 7 T per m²

MODULAR FLOATING WHARVES



Installation of conveyors

MODULAR FLOATING WHARVES



MODULAR FLOATING WHARVES



City of Québec
Year-round installation
Length: 447 ft x 40 ft
19 ft tide
Ice thickness up to 1 m

MODULAR FLOATING WHARVES



Mingan wharf
Fisheries and Oceans Canada
2010 - 2012

MODULAR FLOATING WHARVES

Mingan wharf
2010 - 2012

Beach before
wharf installation



MODULAR FLOATING WHARVES



MODULAR FLOATING WHARVES



Finishing phase and protection of wharf (installation of sheathing)

MODULAR FLOATING WHARVES

Installation of accessories
(hyab, scale, ramps, etc.)



MODULAR FLOATING WHARVES



Mingan wharf
2010 - 2012

Wharf installed by
6 workers
in 2 weeks
Length 255 ft

MODULAR FLOATING WHARVES



Port of Pangnirtung
Nunavut - 2009
Wharf - length 300 ft

MODULAR FLOATING WHARVES



MODULAR FLOATING WHARVES

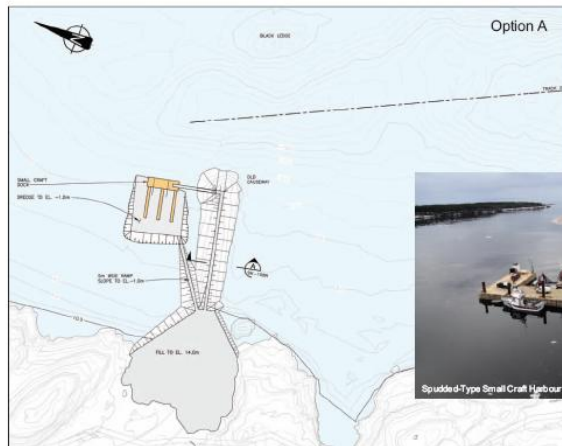
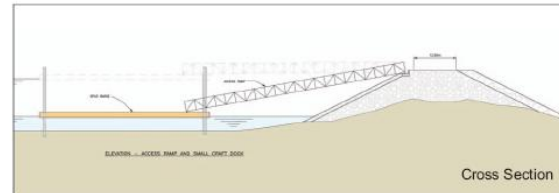
Iqaluit feasibility study - 2010

SMALL CRAFT HARBOUR



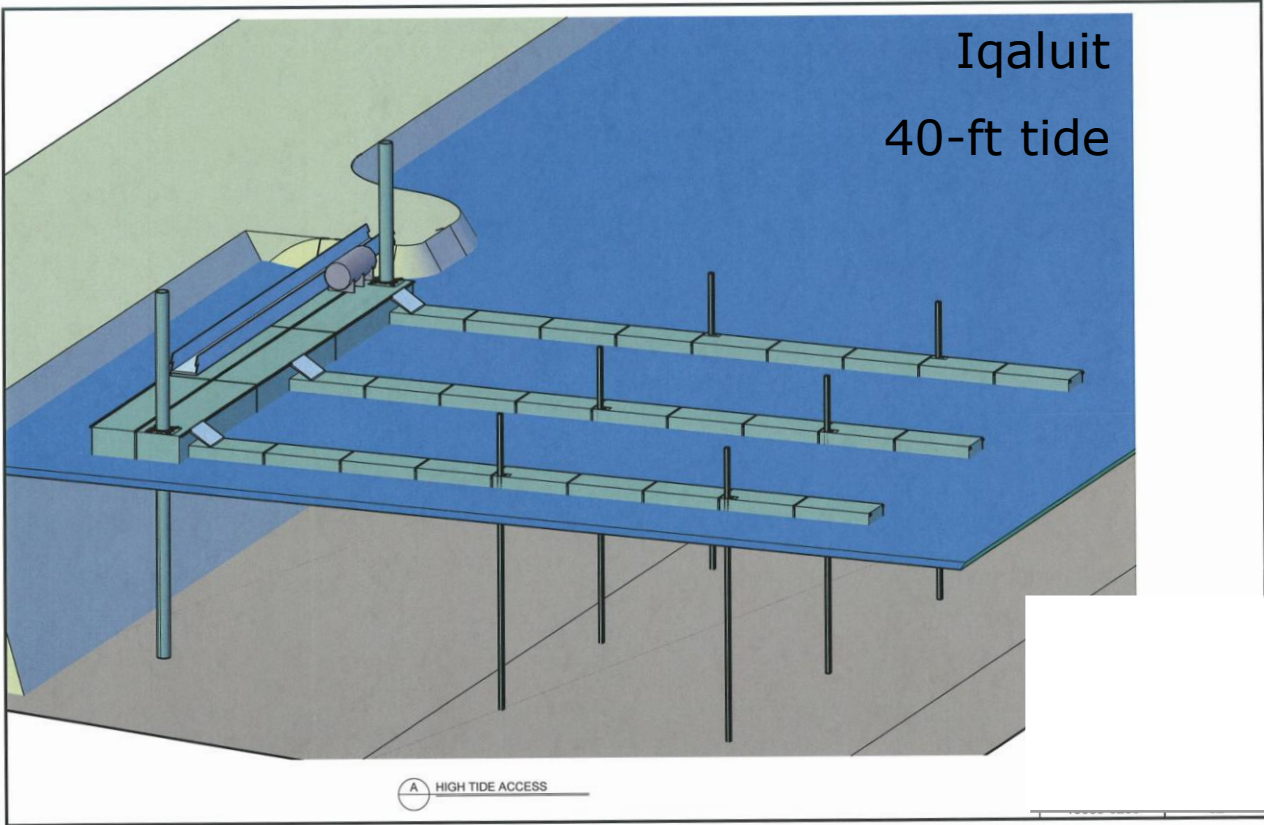
WorleyParsons
resources & energy

- > Location A – upgrade of old causeway
- > Location B – extension to municipal breakwater
- > Features : all-tide accessible boat launching ramp and docks, 15m x 50m main dock with ATV access, optional three 4m x 50m finger floats
- > Spud-barge-type concept as conceived by Groupe Océan is removed and beached for the winter
- > Cost estimate : Option A - \$15 M Option B - \$21 M



MODULAR FLOATING WHARVES

Small craft harbour proposition



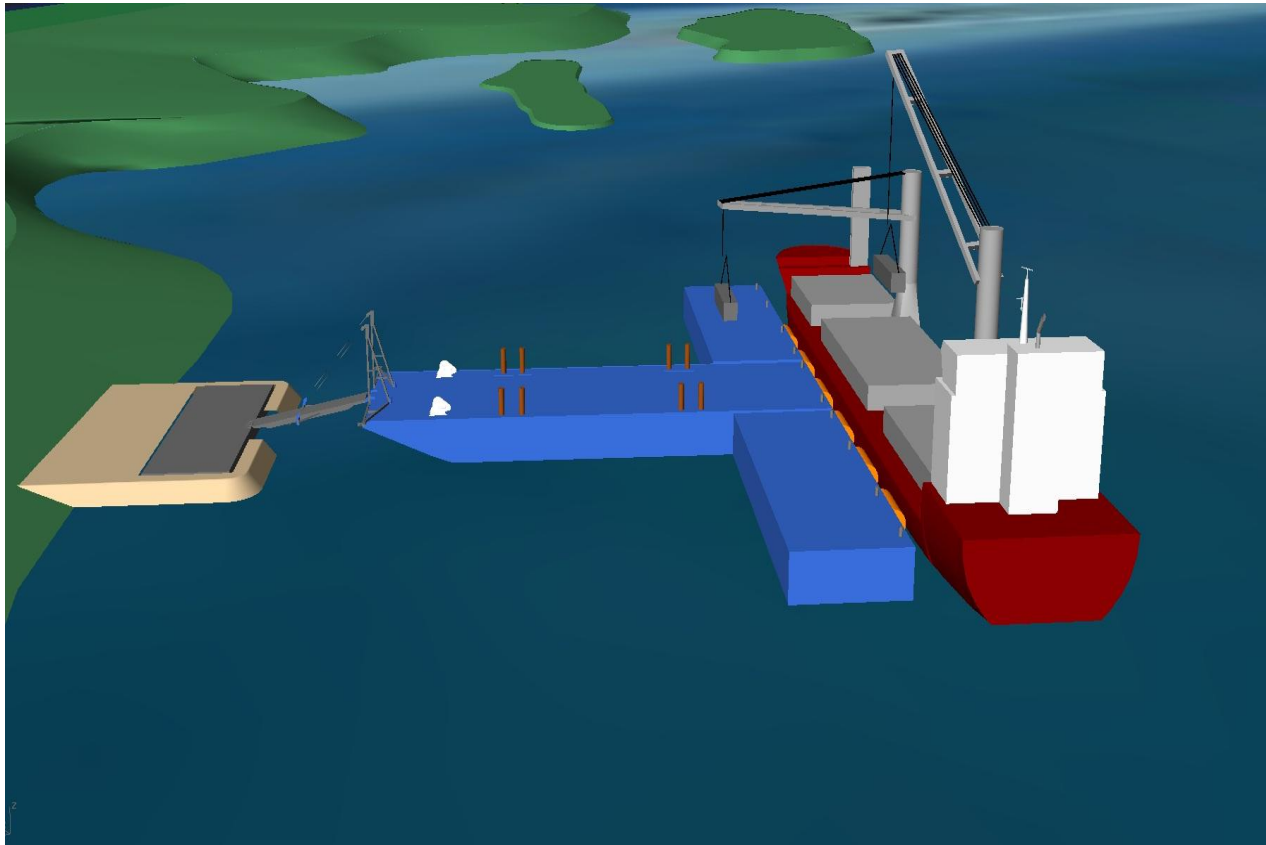
MODULAR FLOATING WHARVES

Solution for cargo ships



MODULAR FLOATING WHARVES

Solution for cargo ships



MODULAR FLOATING WHARVES

ADVANTAGES

Economical:

- Lesser cost compared to the construction of a conventional wharf
- Eliminates cost overrun
- Mobilization of construction equipment at an affordable rate

Efficient:

- Quick time frame for installation
- Start your projects with our turnkey solution
- Correct positioning will eliminate maintenance dredging
- Can be adapted according to your needs

Environmentally friendly:

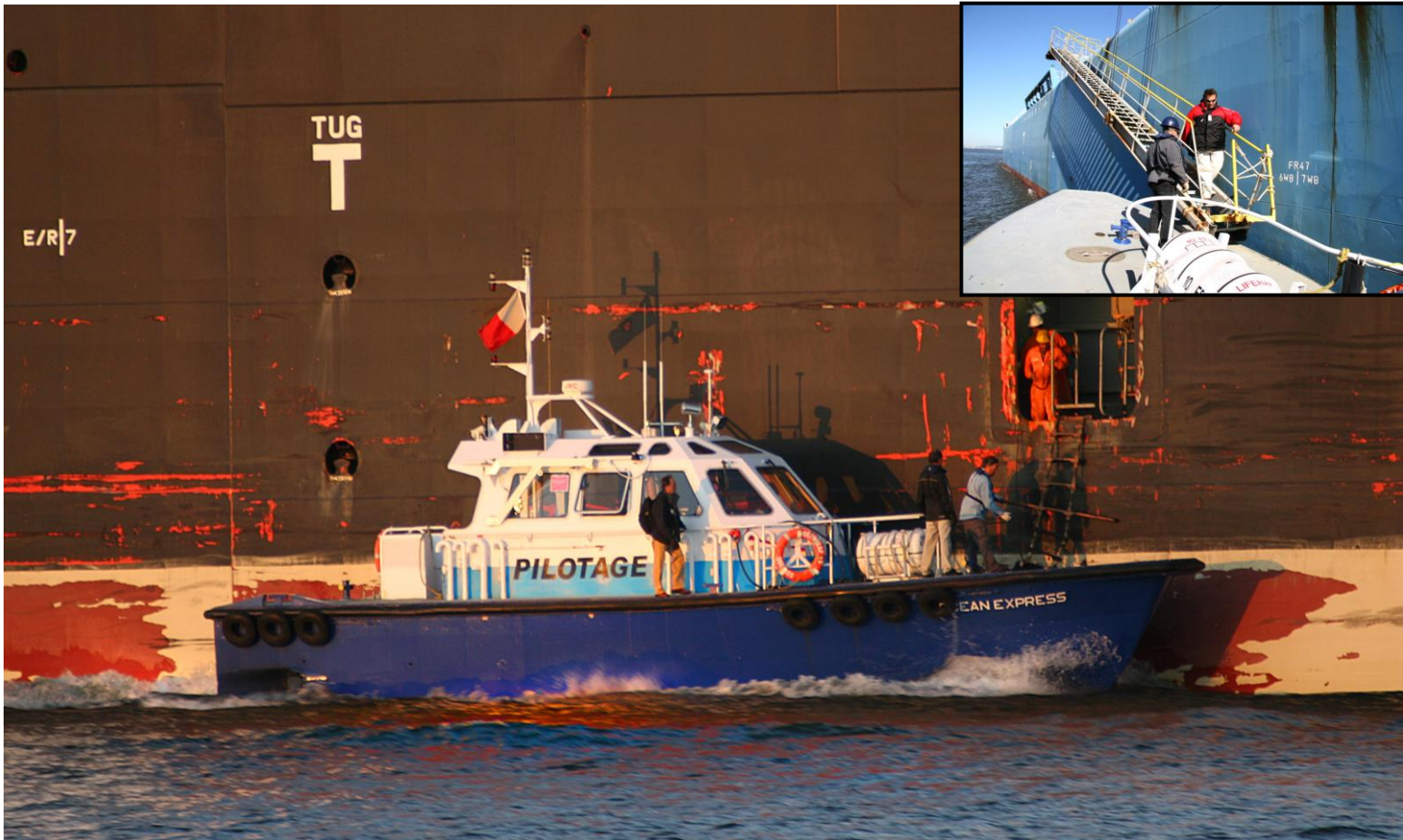
- No dredging / No blasting
- Protect the ecosystem with low impact on marine life
- Eliminate compensation measures for aquatic environment

HARBOUR TOWING



Leader in harbour towing
Great Lakes and St.Lawrence

PILOT BOATS



TRANSHIPMENT AND SUPPLY SERVICES



Supplier of equipment
for transshipment

Photo courtesy of CSL

LONG DISTANCE TOWING

Long distance towing in Quebec, Ontario, Maritimes Provinces and Eastern Arctic region



INDUSTRIAL AND TOPSIDE SHIP REPAIR



STATE-OF-THE-ART WORKSHOP IN THE PORT OF QUÉBEC
OFFERING THE FOLLOWING SERVICES:

- WELDING
- CUSTOM-MADE PARTS
- MARINE REPAIRS (MECHANICS, HYDRAULICS, ELECTRICITY, PUMPS AND ENGINES)
- TOPSIDE REPAIRS (SHIPS CAN DOCK DIRECTLY ALONGSIDE THE WORKSHOP)
- CONSTRUCTION OF WHARFS, OF BARGES, ETC.

INDUSTRIAL AND TOPSIDE SHIP REPAIR

Mobile team
for ship repair



SHIPYARD



SALVAGE AND REFLOATING

Refloating of MSC Sabrina
Trois-Rivières, 2008



MARINE CONSTRUCTION AND EQUIPMENT RENTAL

Power dam project in Shipshaw



Wharf construction in Sept-Iles



DREDGING

- Maintenance dredging
 - Capital dredging
- Environmental dredging



CONCLUSION

Modular wharf: an alternate solution
for port infrastructures

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