moffatt & nichol

LETNIKOF COVE PIPE FLOAT REPLACEMENT CONCEPT COMPARISON SUMMARY

Concept #	Drawing Sheet	Description	Float Cost	Benefits	Trade-offs	Options
1	C-101	In-kind replacement of 6' wide steel pipe pontoon float with longer 50' pipe extensions.	$ 3,181,000.00	Similar to existing float with minor improvements. History of performance with structural upgrades.	Less inherent stability. Steel subject to corrosion. Limited pool of qualified float manufacturers. - Less competitive pricing.	Steel grate, Timber plank, or FRP grate Deck. Additional anchor chain. Deck surface features. High performance coating systems. Duplex coating system. Sacrificial anodes. Skiff moorage rub board.
2	C-102	Widened replacement of steel pipe pontoon float with longer 50' pipe extensions. West and South floats shown 16' wide.	$ 5,069,000.00	Larger deck space for vessel loading / unloading / access. Increased Stability. Increased wave attenuation. Lowest cost /$SF of deck space.	Higher cost. Steel subject to corrosion. Limited pool of qualified float manufacturers. - Less competitive pricing. May require additional anchor and chain.	Variable deck width. Additional anchor chain. Steel grate, Timber plank, or FRP grate deck. Deck surface features. High performance coating system. Duplex coating system. Sacrificial anodes. Skiff moorage rub board.
2a	NA	Similar to concept 2 with south leg reduced to 6' wide.	$ 4,171,000.00	Same as concept 2	Same as concept 2	
3	C-103	Widened concrete replacement float with longer float extensions. Match Cast post-tensioned or monolithic.	$ 6,162,000.00	Larger deck space. Increased Stability. Increased wave attenuation. Heavy concrete float tends to be most stable. More resistant to corrosion (reinforcing steel). Up to 50-year design life.	Highest cost Limited options for float suppliers/precasters on the west coast. Precast floats can have very long lead times. More costly to ship, handle, and install. Likely to require mutlitple additional anchors and chains. Can be difficult to repair.	Roughened deck finish. Additional Anchor Chain. Deck surface features. Variable Freeboard.
4	NA	Timber Framed Floating Dock	$ 2,767,000.00	Lowest cost floating dock. Removable system	Not suitable for year-round service, generally light duty construction. Shorter overall design life. Less wave attenuation and lower stability. Removable system requires securing anchor chains in winter. Likely to require substantial reconfiguration of anchor chain system.	NA
5	NA	HDPE Pipe Pontoon	NA	HDPE impervious to corrosion and durable.	HDPE is flexible and subject to thermal expansion. Unlikely to have sufficient strength without substantial steel superstructure framing. Steel superstructure negates benefits of corrosion resistant properties of HDPE. Likely to require substantial reconfiguration of anchor chain system.	NA
6	NA	Smaller footprint moorage system	Proportional	Reduced footprint saves cost.	Reduces usable deck and moorage space.	NA

Notes:
1. Refer to the report for a breakdown of construction costs and related assumptions.
2. Drawings not provided for Concepts #4-#6 as they are not consistent with the needs of the project.
3. Changes in the float arrangement were not evaluated based on input from the City.
4. Refer to conceptual design plans and report for additional information and details.