

White Paper Template for Haines Borough FY 2021 RAISE Project

***Issue:** Briefly provide a summary of the issue, i.e. the Recipient's requested modification to the Project's scope, schedule, or budget, and the reason for the request.*

Summary - For over a decade the Haines Borough has sought funding to replace the failing Lutak Dock in kind. In support of previous grant applications and for general Borough due diligence, several consulting engineers provided replacement cost estimates that were far higher than the amount ultimately awarded in the FY 2021 RAISE grant process. As previous grant applications had not been successful due to a high estimated cost-to-benefit ratio, a reduced scope proposal was submitted resulting in an FY 2021 RAISE Grant Award. The proposed and awarded grant scope reduced the functionality of the Lutak facility but provided a path forward that would mitigate the safety and environmental risk of a collapse or structural failure.

Upon receipt of the RAISE Grant, the Borough administered an RFP process and selected a design-builder with unique local experience. Contrary to the findings of previous consulting engineers, the selected Design-Builder, Turnagain Marine, provided the Borough with a replacement option that would allow the Lutak dock to be replaced in kind for the same price as the reduced function replacement plan approved by MARAD in the RAISE grant award. The Turnagain proposal 1) satisfied the key elements of the awarded RAISE grant, and 2) provided increased value and functionality without increasing the project costs.

Scope Modification Request – The Haines Borough requests that the Turnagain in-kind replacement concept of full structural and environmental encapsulation replace the approved concept that removed the existing dock and replaced it with a smaller, less functional facility.

Schedule – This modification request does not negatively impact the project schedule. The revised scope would be completed within the timeline established in the existing grant award and as outlined in the grant application.

Budget – This modification does not affect the project budget. Turnagain Marine has provided a lump sum cost proposal that guarantees the revised scope will be constructed for the same cost as the original scope.

Reason for the Scope Change Request - The Haines Borough requests that the Turnagain in-kind replacement option be accepted by MARAD on the grounds that it satisfied the intent of the original grant and improves the cost to benefit ratio; improves the functionality of the resulting facility; and is in line with the long term needs of the Haines Borough and the MARAD mandate of supporting and enhancing maritime commerce.

Background: Provide a background of the project and issue, including what led to the modification request. This can be as long or short as you think necessary to properly discuss the request.

- Please include a summary of the originally awarded scope of work and the new proposed scope of work.

Originally Awarded Scope of Work:

- Phase 1 – Relocate the existing boat launch ramp and create a new fill in the waters of the United States to replace the land (dock) area removed in Phase II.
- Phase II
 - Demolish the existing Lutak Dock and excavate the existing dock fill.
 - Dispose of the existing fill not suitable for re-use offsite.
 - Mine armor stone from an offsite source and place armor stone on the exposed slope resulting from the existing structure removal. The armor would extend from above high tide line to the seabed.
 - Construct a series of berthing dolphins near the original dock fender line and an access platform to reach the center point of the dolphin structures.
 - Construct a small bulkhead inboard of the dolphins to allow some small boat freight activities.
 - Remove and replace underground fuel pipes and fuel bulkhead, requiring fuel lines to be suspended under the proposed catwalk.

Newly Proposed Scope of work:

- Construct a tied back interlocking pipe pile bulkhead in front of the existing dock.
- Abandon the existing structure in place after it is fully encapsulated and stabilized.
- Fill the area between the new bulkhead wall and the existing dock with structural fill
- Perform ground improvement in the existing dock area and the newly filled area between the structures to improve seismic performance and prevent settlement.
- This scope eliminates the need for relocating the small boat launch and creating an alternate fill area. Essentially, the work described in Phase 1 becomes unnecessary allowing the Phase I funds to be more beneficially applied to the dock replacement.
- Fuel lines and bulkhead remain in place undisturbed

By eliminating a large portion of the demolition and excavation associated with the approved scope of work (in Phase 1) a higher functioning larger bulkhead facility, generally matching the original construction size and capacity, can be achieved.

- Include any other options the Recipient considered or efforts the Recipient took before deciding to request the proposed modification request outlined in this White Paper. For example, explain why a redesign, value engineering, or seeking additional funding is not possible.

The proposed modifications request represents a redesign based on value engineering performed by the design-builder during the RFP process that allows a higher value facility to be constructed for the funds available. The modification request does not reduce the capacity or the scope for the work to be performed, conversely, the scope request increases value and functionality without affecting cost.

Proposed Modification Request Justification: Describe the proposed request to modify the project, with as much detail and supporting justification, as possible. When describing this request, keep the following questions in mind and try to address them as much as possible:

1. *If applicable, describe the continued or critical need for the proposed modified scope of work.*
 - a. The modified scope will provide more maritime commerce opportunities than the original scope at no additional cost. It would be irresponsible not to modify the scope to provide the best value and most beneficial facility to the community for the originally allocated grant funds.
2. *Provide any documentation supporting the request for modification, such as responses to RFPs, RFIs, and other bid solicitations.*
 - a. Turnagain Concept Justification letter dated 9/27/22
 - b. Lutak Dock Replacement RFP
3. *If requesting a scope change due to cost increases, provide documentation that supports the Recipient's new proposed scope and estimated budget. Explain why the Recipient is confident it can complete the new proposed scope with the new estimated budget. Include any risk mitigation strategies the Recipient will use to ensure the remaining scope stays within budget.*
 - a. The scope change request is a no-cost request. The Borough will enter into a firm fixed price contract with the design-builder to design and construct the improved project for the available funds. The risk of overruns will be born by the design-builder if this scope change is approved.
 - b. The scope change request would have been the original scope to be requested but the anticipated cost of the revised scope was far higher than the actual price proposed by Turnagain. Accepting this change request will result in better value and will provide more benefit to the maritime community for the already allocated grant amount.
4. *Describe the benefits the Recipient expects from the project if modified as requested, and how these benefits may differ from those originally anticipated. When responding to this question, please address how the proposed modified project will affect or change the*

originally anticipated “Description” and “Benefits” stated in the RAISE Fact Sheet¹ discussing selection of this Project for award.

Description:

This project completes development phases activities and construction to relocate the existing boat launch ramp and creating a new uplands area and demolish the entire Lutak Dock and replace it with a bulkhead, fenders, and mooring dolphins.

Benefits:

The project will replace an existing dock that reached the end of its 60-year service life and has corrosion loss in nearly all support structures, bringing the facility into a state of good repair. The project facilitates economic competitiveness by maintaining low-cost freight access to Haines and preventing regional supply chain disruptions associated with dock closure. The project aligns with environmental sustainability by supporting environmentally efficient goods movement, preventing adverse effects to water quality, and improving Lutak Dock’s resilience to extreme weather events.



a. The description of the RAISE fact sheet is changed as follows:

- i. The need for project phasing is eliminated. The revised scope can be accommodated in one phase without impacting the flow of freight or exceeding allocated funding.
- ii. The need for relocating the existing boat ramp and creating new uplands is eliminated. This is both a major economic victory but also a very significant environmental improvement. The “new” land, or infilled tide lands, are not needed because the existing dock area is not removed. This eliminates filling, dredging, and slope stabilization activities in the waters of the United States.
- iii. The demolition of the entire Lutak dock becomes unnecessary. The existing structure is not being renovated or repaired, it is being fully encapsulated and abandoned in place. This eliminates approximately \$4M for direct demolition, landfill, and slope protection. Again, this both eliminates a major cost activity that has no inherent value to the end maritime users and eliminates environmental exposure associated with a mass excavation and mass fill activity in the marine environment.
- iv. The statement “replace it with a bulkhead, fenders, and mooring dolphins” is fundamentally fulfilled under the newly proposed scope except that rather than constructing a reduced sized bulkhead with moderate utility, a bulkhead matching the size of the existing structure will remain. Mooring dolphins are not needed as the vessels will be able to moor to the bulkhead

¹ Available here: https://www.transportation.gov/sites/dot.gov/files/2022-02/RaiseGrants_Capital%20Fact%20Sheets.pdf.

structure, as they did with the original structure. The proposed bulkhead is not only larger than the approved bulkhead described, but also far more functional. The revised proposal allows for pass-pass freight handling, heavy roll on roll off, and other, more diverse freight and maritime activities that the approved facility cannot accommodate.

- b. **The Benefits section of the RAISE Grant Fact Sheet is changed as follows:**
- i. 100% of the described benefits identified for the approved scope are retained in the requested modified scope. There are no negative changes to the benefits achieved if the requested scope modification is achieved.
 - ii. The proposed revised scope allows for the movement of freight using the very common and beneficial method of pass-pass container handling, the approved concept does not readily facilitate this activity.
 - iii. The proposed revised scope allows large cargo such as bridge girders and steel assemblies to be loaded to and from barges using cranes. The approved scope does not allow for this activity.
 - iv. The proposed revised scope achieves all of the above benefits while reducing hundreds of thousands of cubic yards of dredging, excavation, fill, and slope protection thereby reducing environmental impacts, improving sustainability, and eliminating adverse impacts to the waters of the United States
 - v. See the below analysis report that shows Option 4, the requested modified scope, is more beneficial to the community than Option 3A, the approved scope.

Initial 2017 Analysis from Report by Others					
ALT.	DESCRIPTION	PROS	CONS	LEVEL OF SERVICE	CAPITAL COST
1A	ENCAPSULATE USING MODIFIED DIAPHRAGM	<ul style="list-style-type: none"> EFFICIENT AND COST EFFECTIVE MAINTAINS EXISTING FOOTPRINT ACCOMMODATES CURRENT USERS INCLUDING PASS PASS CARGO OPERATIONS 	<ul style="list-style-type: none"> PILE DRIVING RISK DURING CONSTRUCTION ENCAPSULATES EXISTING SHEETS AND POOR QUALITY FILL 	HIGH	\$37,420,000
1B	ENCAPSULATE USING MODIFIED DIAPHRAGM	<ul style="list-style-type: none"> EFFICIENT AND COST EFFECTIVE MAINTAINS EXISTING FOOTPRINT ACCOMMODATES CURRENT USERS INCLUDING PASS PASS CARGO OPERATIONS 	<ul style="list-style-type: none"> PILE DRIVING RISK DURING CONSTRUCTION ENCAPSULATES EXISTING SHEETS AND POOR QUALITY FILL DOES NOT RECLAIM UPLANDS AT CELLS 5, 6, AND 7 	HIGH	\$31,989,000
2	PLATFORM DOCK (STEEL PILE-SUPPORTED CONCRETE DECK)	<ul style="list-style-type: none"> ALL NEW FACILITIES HIGHER LEVEL OF SEISMIC PERFORMANCE MAINTAINS EXISTING FOOTPRINT AND RECLAIMS ½ ACRE UPLANDS AT CELLS 5, 6, AND 7 ACCOMMODATES CURRENT USERS INCLUDING PASS PASS CARGO OPERATIONS 	HIGHEST COST	HIGH	\$61,840,000
3A	DOLPHINS AND TRANSFER BRIDGE	<ul style="list-style-type: none"> ALL NEW FACILITIES 	<ul style="list-style-type: none"> LOSE APPROXIMATELY 1.7 ACRES OF UPLANDS LOSE ABILITY TO USE PASS PASS FOR CARGO OPERATIONS LOSE ABILITY TO SIDE LOAD OVER DOCK FACE 	MEDIUM	\$25,383,000
3B	DOLPHINS AND TRANSFER BRIDGE	<ul style="list-style-type: none"> LEAST COST ALL NEW FACILITIES 	<ul style="list-style-type: none"> LOSE APPROXIMATELY 1.7 ACRES OF UPLANDS LOSE ABILITY TO USE PASS PASS FOR CARGO OPERATIONS LOSE ABILITY TO SIDE LOAD OVER DOCK FACE SERVICEABILITY LIMITED TO EXISTING FUEL AND CARGO BARGES 	MEDIUM	\$21,166,000
Turnagain Analysis					
4	Pipe-Pipe Pile Wall with Tiebacks	<ul style="list-style-type: none"> Efficient and cost effective Maintains existing foot print Accommodates current users including Pass Pass Cargo Operations All new facilities Highest level of seismic performance. Least environmental impact or safety risk. Reduced geotechnical risk during construction. Eliminates costly demolition without adversely affecting 	<ul style="list-style-type: none"> 1A and 1B above claim the encapsulation of poor fill and existing sheets is a con. Turnagain disagrees with this assessment but has made provisions to perform ground improvement inside the existing cells to improve seismic performance negating any perceived or real concerns about the existing fill. A geotechnical engineer has been engaged to aid in the analysis and design of the soil improvements. 	HIGH	\$25,383,000 Inclusive of all design, permitting, and construction IF THIS OPTION HAD BEEN CONSIDERED IT WOULD HAVE BEEN THE SELECTED PREFERRED OPTION. This option was not considered because the cost

5. *Describe how the requested modification continues to align with the RAISE program merit criteria, such as safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, partnership, and innovation.*
 - a. **Safety** – eliminating the demolition and excavation activities required in the approved scope reduces the labor exposure hours and improves worker safety. The requested revised scope is designed to the highest seismic standards creating a facility that will allow safe operations for years to come. The added dock face area from the proposed scope change concept creates more working area for materials transferring equipment to safely handle large and oversized freight.
 - b. **Environmental Sustainability** – if the revised scope is approved, hundreds of thousands of cubic yards of in-water excavation and dredging are eliminated. Hundreds of thousands of cubic yards of in water fill and slope protection are eliminated. The mining of new armor stone for slope protection is eliminated. The revised scope reduces impacts on the waters of the United States while providing more user benefits reducing the likelihood that the dock will require expansion or upgrade in the future to meet growing commercial and industrial needs.
 - c. **Quality of Life** – The proposed revised scope will allow the dock to fulfill all the community’s needs for freight access safely and dependably for generations. This proposed scope increases the community’s ability to engage in maritime commerce and provides the highest certainty that the dock will meet the community’s long-term needs.
 - d. **Economic Competitiveness.** – of all the criteria discussed in this section, the economic competitiveness is the element that the proposed revised scope most improves upon the approved scope. The approved scope reduces the economic competitiveness of Haines by replacing the existing Lutak dock with a less functional dock. The proposed revised scope provides a dock that will facilitate more diverse, less costly, safer, and more efficient freight handling than the approved scope. Many historical uses of the dock cannot be accommodated by the approved scope but are accommodated well by the proposed revised scope.
 - e. **State of Good Repair, Partnership, and Innovation** – The proposed revised scope was made possible by the Design-Builders innovative design that provided the highest level of good repair, capacity, and value for the funds available. Previous engineers lacked the innovation to identify a cost-effective solution that allowed an in-kind replacement, but the partnership between the Borough and Turnagain Marine resulted in the Borough receiving a firm fixed price proposal for a superior facility that was within the available funds. This is a great achievement for the community and a better return on investment of the RAISE funds.
6. *Please confirm, with supporting documentation if possible, the Recipient’s continued matching commitment if the Project budget increases from that originally anticipated.*

- a. The Recipient has received an enforceable lump sum proposal for the revised scope in the same amount as the original project cost. The lump sum contract protects the Haines Borough from cost increases.
7. *Describe whether it is the Recipient's intention to eventually complete the originally proposed project, at a later date.*
 - a. The revised scope achieves or exceeds all the objectives and benefits of the originally proposed scope making need for future work unnecessary.
8. *If the requested modification were approved, provide a new estimated scope, schedule, and budget for the Project, including the timeline for completion of the redesign. Include pictures, maps, charts, etc. as needed.*
 - a. The schedule and budget are not changed. If the request is approved promptly, the project will finish on the original timeline and for the original budgeted amount.
9. *Provide the Recipient's preferred timeline for DOT review of this request to meet current or proposed project timelines.*
 - a. As there are no negative elements to this request and given that the requested modification meets or exceeds all the original scope objectives, it is requested that the review of this request occur promptly. Prompt response will ensure that the original Project timeline can be met. The Borough respectfully requests a response to this request by **November 1, 2022.**
10. *Describe any consequences of DOT's denying this proposed modification request or reducing the Federal award amount based on this modification.*
 - a. The recipient would move forward with the original scope. The original objectives would be achieved but the resultant facility would not represent the best value facility possible with the available funds. A larger environmental impact due to demolition, and quarry material mining will follow in completion of the original scope.

Additional considerations or questions:

- *Confirm whether the proposed modification affects the NEPA or Section 106 review.*
 - a. The proposed modification reduces the need for in-water excavation and fill, thereby simplifying the NEPA and Section 106 process.