

# Sandy Beach Lighthouse Relocation



# Our Project Team



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# Original Scope

The **Sandy Beach Lighthouse Relocation Project** was initiated to move the historic lighthouse and its associated buildings 2,900 feet southeast due to coastal erosion. The project aimed to preserve the lighthouse's structural integrity, maintain its historic designation, and minimize environmental impact while completing the move within 18 months and a \$12 million budget.



# Project Update & New Scope

Unexpected contamination at the final site—due to a buried oil tank—has triggered mandatory environmental remediation, increasing costs and extending the project timeline. Adjustments to the budget and schedule are now required.



# Updated Messaging Suggestions for Locals

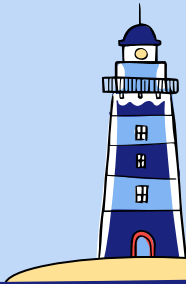
“We understand how important the Sandy Beach shoreline is to our community. To ensure minimal disruption, we are keeping designated sections of the beach open while safely conducting soil remediation. Our goal is to balance environmental safety with continued public access.”



# Status Report on Milestones

As it currently stands, we have completed all anticipated preconstruction activities.

- These include:
  1. **Securing necessary equipment and contractors**
    - Project Bid, Subcontractor Selection, Equipment Procurement
  2. **Establishing the clearance lane**
    - Grading, Gravel, and Compression
  3. **Stabilizing existing buildings in preparation for the move**
    - Temporary beams, structural improvements, architectural consultants
  4. **Communicating to community stakeholders**
    - Press Conferences, contact with local news agencies
  5. **Installing safety barriers and signage**
    - New path to access beach, contracted security team



# National Landmark Status Recertification

- ★ **Key Priority:** Maintain National Historic Landmark Status after relocation.

**Level of Confidence:** *High*

While not common, existing National Historic Landmarks (NHLs) can be relocated and maintain their NHL status under **Exception 2**, provided the landmark maintains its original orientation/positioning **AND** that the relocation is done for the purposes of maintaining the integrity of the NHL.



# National Landmark Status Recertification

- National Park Service Requirement:
  - ❑ Maintain the “...**horizontal and vertical relationship of the four structures...**” (National Park Service, 2000).

## Documentation Submitted and Reviewed:

- ❑ An Updated **Letter of Inquiry** confirming:
  - ✓ “...the current **integrity** of the property,, the status of the NHL boundary and any contemplated changes, and the **intention to reaffirm...**” (National Park Service, 2024).
  - ✓ Adherence to historical positioning





# Unanticipated Obstacles

While we have made steady progress, we have encountered some unanticipated delays and obstacles.

## These include:

- **Weather Conditions**
  - Larger than anticipated # of tropical storms and hurricanes
- **Worker Shortages**
  - Active homeowner construction and renovation during warmer weather
- **Increased cost of materials**
  - Uncertainty surrounding price increases due to new tariffs
- **Petroleum By-Product**
  - Buried oil tank extraction and soil replacement



**Sweeping new tariffs put future construction projects at risk**

**BuildForce National Forecast: Boom or bust? Uncertainty reigns supreme for construction amid tariffs**

# Initial Financial Plan

**Total Project Budget:**  
**\$12,000,000**

Expense Category	Estimated Cost
Preliminary Surveys & Engineering	\$600,000
Site Preparation & Environmental Safeguarding	\$900,000
Stabilization & Reinforcement	\$2,000,000
Heavy Lifting & Moving Equipment	\$3,500,000
Construction & Re-establishment	\$3,000,000
Personnel & Labor	\$1,200,000
Community Outreach & Communication	\$300,000
<b>Estimated Project Cost</b>	<b>\$11,500,000</b>

# Updated Financial Plan

Expense Category	New Estimated Cost	Cost Increase (from original estimate)
Preliminary Surveys & Engineering	\$600,000	\$0
Site Preparation & Environmental Safeguarding	\$2,100,000	+ \$1,200,000
Stabilization & Reinforcement	\$2,000,000	\$0
Heavy Lifting & Moving Equipment	\$3,500,000	\$0
Construction & Re-establishment	\$3,000,000	\$0
Personnel & Labor	\$1,500,000	+ \$300,000
Community Outreach & Communication	\$300,000	\$0
<b>Updated Estimated Project Cost</b>	<b>\$13,000,000</b>	<b>+ \$1,500,000</b>



# Earned Value Measurements

Milestone Category	% Complete	EV	AC	PV	CV	SV
Preliminary Surveys & Engineering	100%	\$600,000	\$600,000	\$600,000	\$0	\$0
Site Preparation & Environmental Safeguarding	50%	\$450,000	\$500,000	\$550,000	-\$50,000	-\$100,000
Stabilization & Reinforcement	0%	\$0	\$0	\$0	\$0	\$0
Heavy Lifting & Moving Equipment	30%	\$1,050,000	\$1,050,000	\$1,050,000	\$0	\$0
Construction & Re-establishment	10%	\$300,000	\$0	\$300,000	+\$300,000	\$0
Personnel & Labor	20%	\$240,000	\$300,000	\$240,000	-\$60,000	\$0
Community Outreach & Communication	25%	\$75,000	\$75,000	\$75,000	\$0	\$0

# Updated Key Budget Categories

## 1. Heavy Lifting & Moving Equipment – \$3,500,000 (*unchanged*)

- Equipment rentals (cranes, transport vehicles, etc.): \$1,500,000
- Custom lifting mechanisms for historic buildings: \$1,000,000
- Transportation logistics: \$1,000,000

## 2. Stabilization & Reinforcement – \$2,000,000 (*unchanged*)

- Lifting and stabilization beams: \$1,000,000
- Reinforcement for Keeper's quarters, oil house, and cisterns: \$500,000
- On-site structural stabilization: \$500,000

## 3. Site Preparation & Environmental Safeguarding – \$2,100,000 (*increased by \$1.2M*)

- Excavation and site clearing: \$500,000
- Environmental impact studies and wildlife protection: \$250,000
- Gravel road construction: \$150,000
- **New: Buried oil tank investigation and removal: \$400,000**
- **New: Hazardous waste soil remediation: \$800,000**



# Updated Key Budget Categories Cont.

## 4. Construction & Re-establishment – \$3,000,000 (*unchanged*)

- Rebuilding foundations at new site: \$1,500,000
- Reconnection of utilities: \$500,000
- Rebuilding oil house and cisterns: \$500,000
- Miscellaneous (roads, pathways, etc.): \$500,000

## 5. Personnel & Labor – \$1,500,000 (increased by \$0.3M)

- **Project management and consultants: \$650,000 (Increased by \$150,000)**
- **Skilled labor: \$650,000 (Increased by \$150,000)**
- Preservation specialists: \$200,000

## 6. Community Outreach & Communication – \$300,000 (*unchanged*)

- Engagement programs: \$150,000
- Public relations: \$100,000
- Events upon completion: \$50,000



# Impact Assessment & Response Plan

## Impact of Unanticipated Events:

- **Cost Increase:** +\$1,500,000 due to environmental remediation and excavation.
- **Schedule Delay:** Estimated additional 3–6 weeks for investigation, removal, and soil replacement.
- **Stakeholder Risk:** Increased concern from the city council and community about budget overruns and safety.

## Response Strategy:

1. Transparent Communication Plan
2. Prioritize Environmental Safety
3. Schedule Recovery Measures
4. Financial Planning
5. Public Relations & Community Trust



# Schedule Options

## OPTION 1:

Soil Remediation of Misc Buildings Completed First:

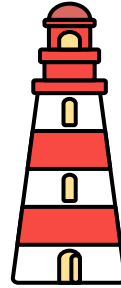
- Total Schedule Add- 2-3 weeks
- Cost: Labor for Weekends



## OPTION 2:

Soil Remediation of Lighthouse Completed First:

- Total Schedule Add- 1-2 weeks
- Cost: Labor for Weekends



## OPTION 3:

Soil Remediation Completed All at Once:

- Total Schedule Add- 5 weeks
- Cost: Labor and Schedule extension







# Final Option Chosen

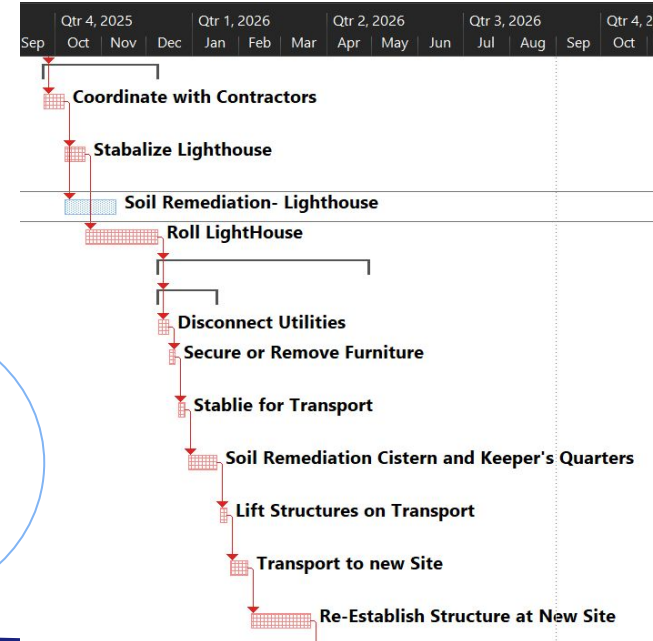
## OPTION 2:

Soil Remediation of Lighthouse Completed First:

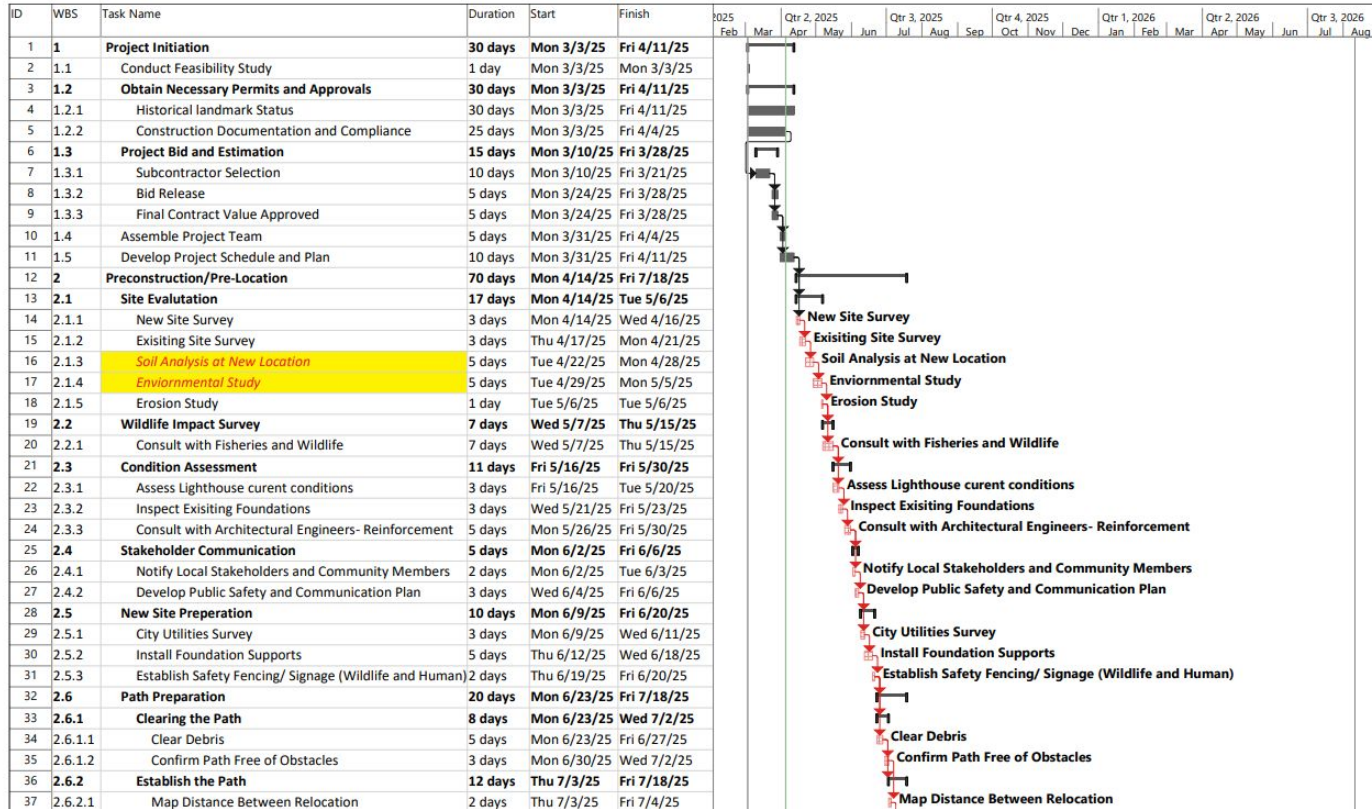
- Total Schedule Add= 1 week
  - Lighthouse Moved During other Soil Remediation
- Cost: Labor for Weekends

Original  
Completion  
Date  
8/01/26

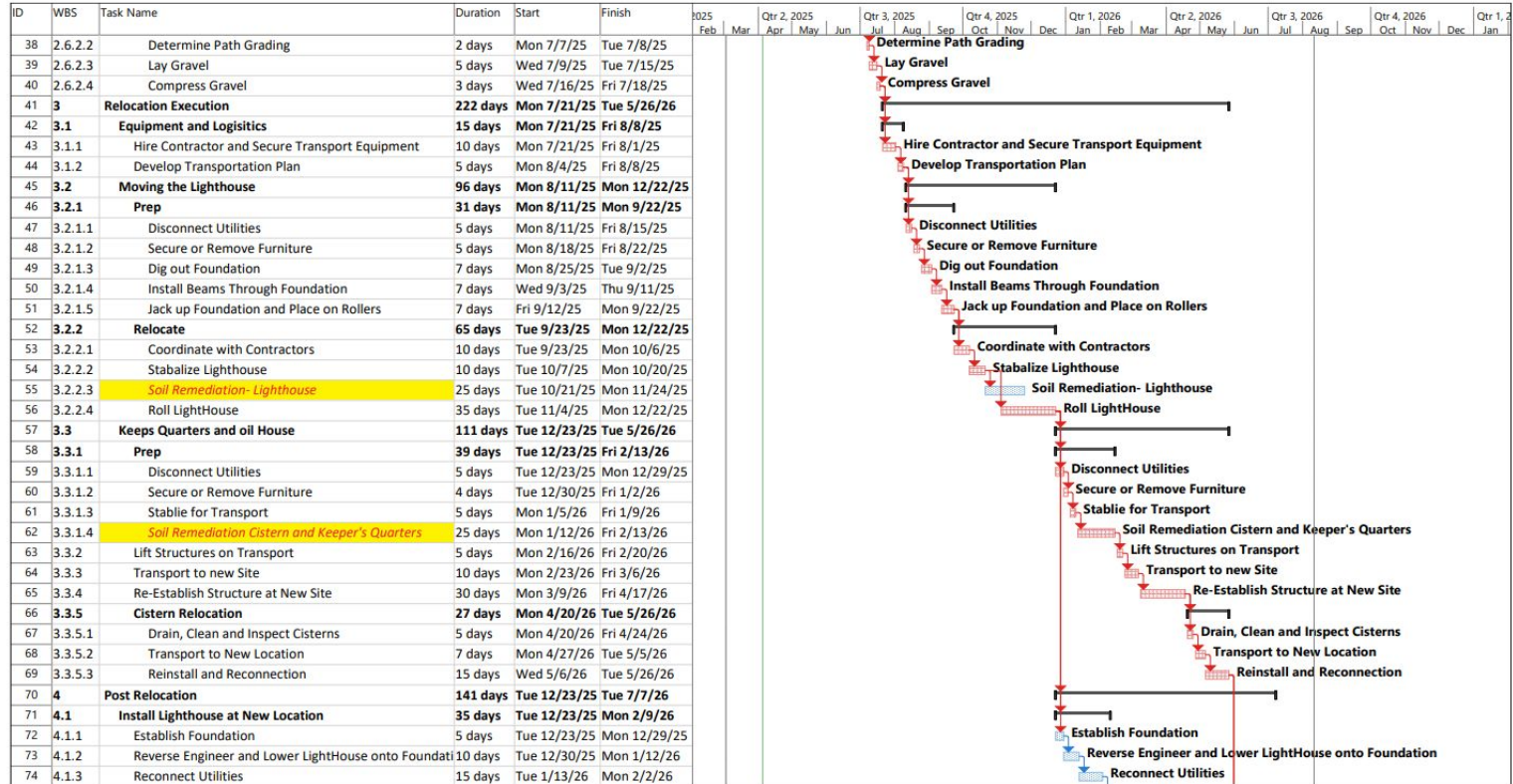
New  
Completion  
Date  
8/10/26



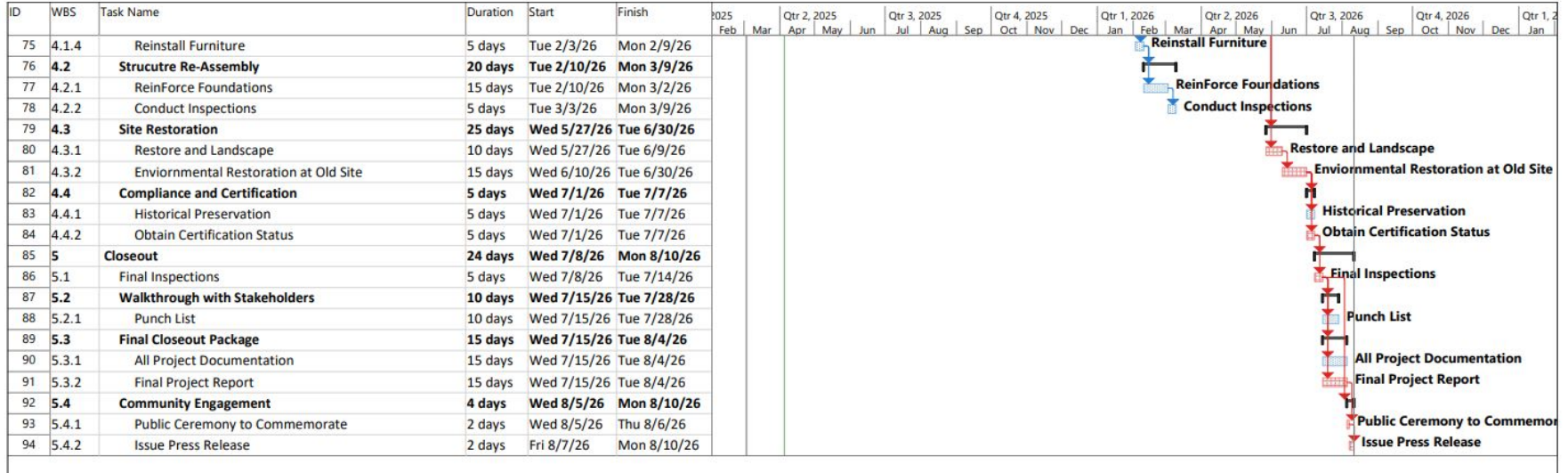
# Updated Gantt Chart



# Updated Gantt Chart



# Updated Gantt Chart



# Risk Management Plan - Risk Assessment

Environmental



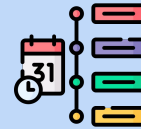
Technical



Financial



Schedule



Legal and  
Compliance



Stakeholders



Labor and  
operations



# Risk Management Plan - Risk Assessment

## Environmental

Further  
remediation  
required

Contamination  
at the final  
placement site

## Financial

Budget overruns  
from environmental  
remediation

Environmental  
waste disposal  
fines

## Technical

Post-remediation  
soil instability

Transport route  
obstructions

Damage to  
lighthouse during  
relocation

Equipment failure



# Risk Management Plan - Response Plan

## Environmental

Conduct environmental assessment  
before construction.

Establish a time and budget buffer

**Contingency:** Escalate to  
environmental specialists and notify  
stakeholders.



Implement containment systems

Creation of a **protocol for  
emergency spills**

**Contingency:** Pause construction  
and execute emergency  
containment and soil remediation.





# Risk Management Plan - Response Plan

## Technical

**Identify alternative routes or paths.**

**Contingency:** Activate backup transportation plan and reroute.



**Conduct geotechnical testing and reinforcement.**

**Contingency:** Redesign foundation and implement soil stabilization.

**Establish a fixed-price contract with our vendors.**

**Contingency:** Backup Equipment.





# Risk Management Plan - Risk Assessment

## Legal and Compliance

Historical  
Preservation  
Requirements

Failure to meet  
environmental  
standards

## Stakeholders

City Council  
funding  
withdrawal

Public backlash due  
to environmental  
concerns

## Schedule

**weather-related  
delays (hurricane,  
storms)**

Delays from  
contamination &  
regulatory reviews

Delay in permits

Labor strikes or work  
stoppages

Miscommunication  
with subcontractors



# Risk Management Plan - Response Plan

## Schedule

**Submit permits early**

**Contingency:** Maintain close liaison with environmental and historical preservation authorities

**Schedule critical activities during the optimal weather window.**

**Contingency:** Reschedule critical activities and establish an emergency response.



# Risk Management Plan- Risk Assessment

## Labor and Operations

General worker  
shortage  
(immigration  
policies)

Skilled labor  
shortage

Health and safety  
incidents

Additional  
geotechnical work  
post-remediation

## Response Plan

**Engage temporary staffing agencies.**  
**Adjust work schedules**  
**Contingency:** Delay non-critical work  
until labor availability improves.



# Statement of Confidence

Despite some unanticipated obstacles, our team is confident that we will meet our revised completion date of 8/10/26 while adhering to our originally allocated budget as closely as possible.

As discussed, we will do so by completing activities in parallel to ensure as little disruption to our previously established schedule. While this will require some additional labor and incur some costs, we have elected to prioritize timely completion of the project, as this was a key focus for the Executive Steering Committee.



# Questions?



# References

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National Park Service. (2025b). *Nomination Process—National Historic Landmarks (U.S. National Park Service)*.

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<https://www.constructiondive.com/news/trump-tariffs-construction-risk-liberation-day/744334/>



# Supplemental Material – Risk Assessment form

Category	Risk Description	Likelihood	Impact	Detection difficulty	Risk Value
Environmental	Risk of further remediation requirements	4	4	2	32
Environmental	Movement of lighthouse might cause contamination at final site	3	4	3	36
Environmental	Impact on wildlife and marine life	3	3	3	27
Technical	Damage to lighthouse during relocation	3	5	2	30
Technical	Transport route obstructions	3	5	3	45
Technical	Equipment failure	3	5	3	45
Technical	Post-remediation soil instability	3	4	4	48
Financial	Budget overruns from environmental remediation	4	4	2	32
Financial	Environmental waste disposal fines	4	3	2	24
Stakeholder	City Council funding withdrawal	3	5	2	30
Stakeholder	Public backlash due to environmental concerns	3	3	3	27
Schedule	Delay in permits from wildlife protection agencies	3	5	3	45
Schedule	Weather-related delays (hurricane, adverse weather)	3	5	4	60
Schedule	Delays from contamination & regulatory reviews	2	4	3	24
Schedule	Labor strikes or work stoppages	2	5	3	30
Schedule	Miscommunication with subcontractors	2	2	3	12
Legal & Compliance	Historical Preservation Requirements	3	5	3	45
Legal & Compliance	Failure to meet environmental standards	3	4	2	24
Labor & Operations	Skilled labor shortage	3	5	2	30
Labor & Operations	Health and safety incidents	2	5	1	10
Labor & Operations	Additional geotechnical work post-remediation	3	2	3	18
Labor & Operations	General worker shortage (e.g., due to immigration policies)	3	4	4	48





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