

SHORELINE RESTORATION FRAMEWORK PLAN

71st Street – 75th Street



Greg
MITCHELL
7th Ward Alderman



SEPTEMBER 2026



OVERVIEW

The Public Building Commission of Chicago (PBC), in coordination with the Chicago Department of Transportation (CDOT), is leading a feasibility study and framework plan for the protection of the Lake Michigan shoreline between 71st Street and 75th Street.

This stretch of shoreline has experienced severe erosion and flooding caused by high lake levels, powerful storm events, and persistent wave action. These conditions have damaged both public and private property and required emergency shoreline protection and repairs.

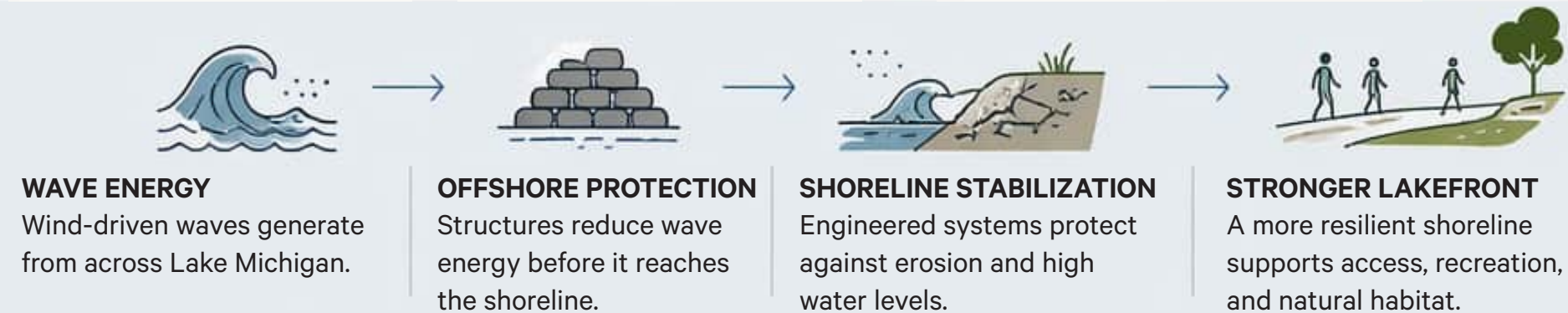
This feasibility study explores long-term, sustainable shoreline protection strategies that balance protection, public access, and views of Lake Michigan.

The study area includes the Lake Michigan shoreline between 71st and 75th Street in Chicago's South Shore neighborhood. Key locations include Arthur Ashe Beach, street ends of E 73rd Street and E 74th Street, and several privately owned residential properties.

**Protect What Matters**
Safeguard homes, infrastructure, and critical shoreline assets.

**Support Access and Recreation**
Maintain and improve access to the lakefront, beaches, and public spaces.

**Build a Resilient Shoreline**
Invest in solutions that respond to changing lake conditions and environmental pressures.



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Shoreline erosion is driven by wave action and high water levels.

**Reduce Wave Energy**

**Protect Against High Water Levels**

**Stabilize the Shoreline**

PURPOSE

During a period of unusually high lake levels in 2020, temporary emergency shoreline protection measures were installed to reduce erosion and impacts of flooding. These measures include placement of non-engineered stone and concrete revetments and gravel trap bags along the South Shore Cultural Center. While effective in the short term, many of these measures were not designed for long-term performance and limit access to and recreational use of the shoreline.

The purpose of this feasibility study is to evaluate the existing shoreline conditions, identify jurisdictional and property constraints, understand regulatory and permitting considerations, and assess the feasibility of long-term shoreline protection solutions. The feasibility study does not select a final design, but rather identifies strategies that are technically and institutionally feasible for future implementation.

PROJECT FUNDING

This study is supported by state and federal grant funding, including:

- Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP)
- Illinois Department of Commerce and Economic Opportunity (DCEO) Grant

PROJECT TEAM

The consultant team is led by Milhouse Engineering and Construction, Inc., with support from:

- WSP USA – Coastal engineering and landscape architecture
- GSG Consultants, Inc. – Surveying, geotechnical, and environmental services
- JLK Architects – Historic resources review

The team is working closely with PBC, CDOT, the Chicago Park District, and the 7th Ward Alderman Greg Mitchell throughout the study.





EXISTING SHORELINE CONDITIONS

The Lake Michigan shoreline between 71st Street and 75th Street is highly exposed to natural forces. The location and orientation of the shoreline makes it particularly vulnerable to wind driven waves coming from the north and north-northeast, the predominant wind and wave direction. Persistent wave energy threatens shoreline stability and adjacent properties. The location at the south end of Lake Michigan also makes the project location susceptible to rising still water levels due to storm surge. Understanding existing site conditions is essential to evaluating feasible shoreline protection options.





EXISTING CONDITIONS

Shoreline protection efforts have occurred along this stretch of shoreline for more than a century. Most recently, temporary emergency measures were installed during periods of high lake levels to prevent further erosion and damage.

Today, the shoreline includes a mix of temporary, partial, and obsolete features, such as stone riprap, trap bags, steel sheet piling, broken concrete, and remnants of historic piers and cribbing offshore. While these measures have helped stabilize the shoreline in the short term, they limit access in some areas and are not intended as a permanent solution.

The feasibility study evaluates opportunities to remove, replace, or supplement these measures with coordinated, long-term shoreline protection strategies.

A SHORELINE SHAPED BY TIME

Erosion has long been a defining feature of this stretch of shoreline. Newspaper accounts document erosion problems here as far back as the early 1900s, with continued references through major storm events in 1917, 2020, and other periods of high lake levels.

At one time, a public roadway known as Lake Park Avenue extended from 71st Street to 79th Street along land that is now completely underwater. East of Lake Park Avenue was a private beach, Manhattan Beach, serving nearby residents. In 1917, a powerful storm struck the shoreline, washing away Lake Park Avenue, large sections of land, and even entire homes on properties adjacent to the road.

Unlike gradual erosion, which precedent says results in submerged land becoming property of the state, the sudden loss caused by the 1917 storm led to a unique legal outcome. Architect Henry Durbin successfully argued that storm damage did not eliminate private ownership rights. This precedent allowed private parcels that were submerged during the storm to remain privately owned, even when fully underwater. As a result, this area includes the only privately owned property in Cook County that is completely underwater – the former Manhattan Beach site – as well as several shoreline properties that include portions of lakebed within their parcel boundaries.

A SHORELINE THAT KEEPS CHANGING

1917

A major storm caused severe erosion, washing away Lake Park Avenue, adjacent land, and homes.



2020

Record high lake levels and storms continued to damage the shoreline.



TODAY

A patchwork of temporary and aging measures provide limited protection against ongoing erosion and high-water damage.



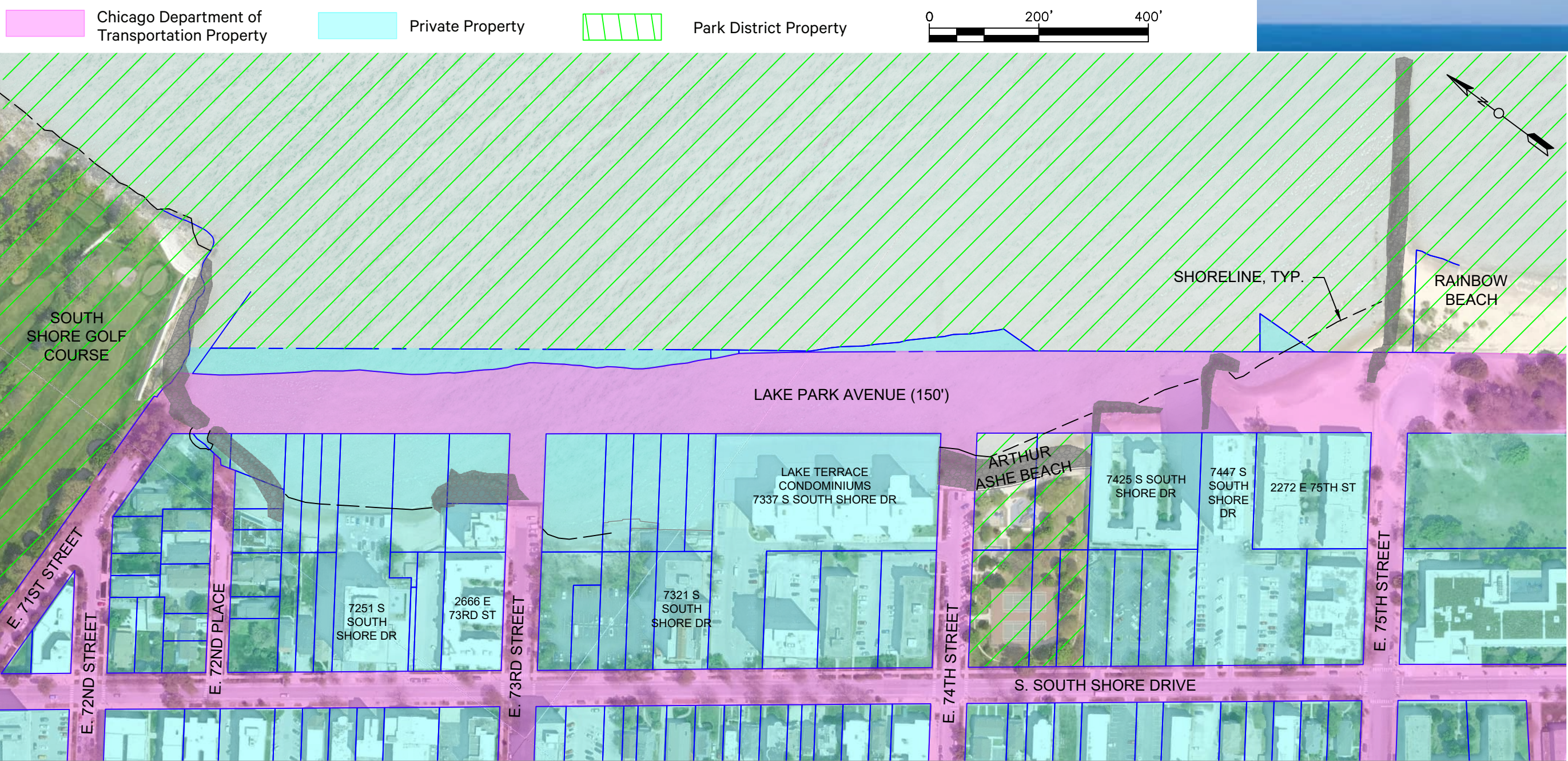
PROPERTY OWNERSHIP

The unique history of the project site has resulted in an unusual ownership pattern along the shoreline. The project area includes CDOT right-of-way (formerly Lake Park Avenue), private parcels, some of which extend partially or entirely into Lake Michigan, and Chicago Park District (CPkD) property.

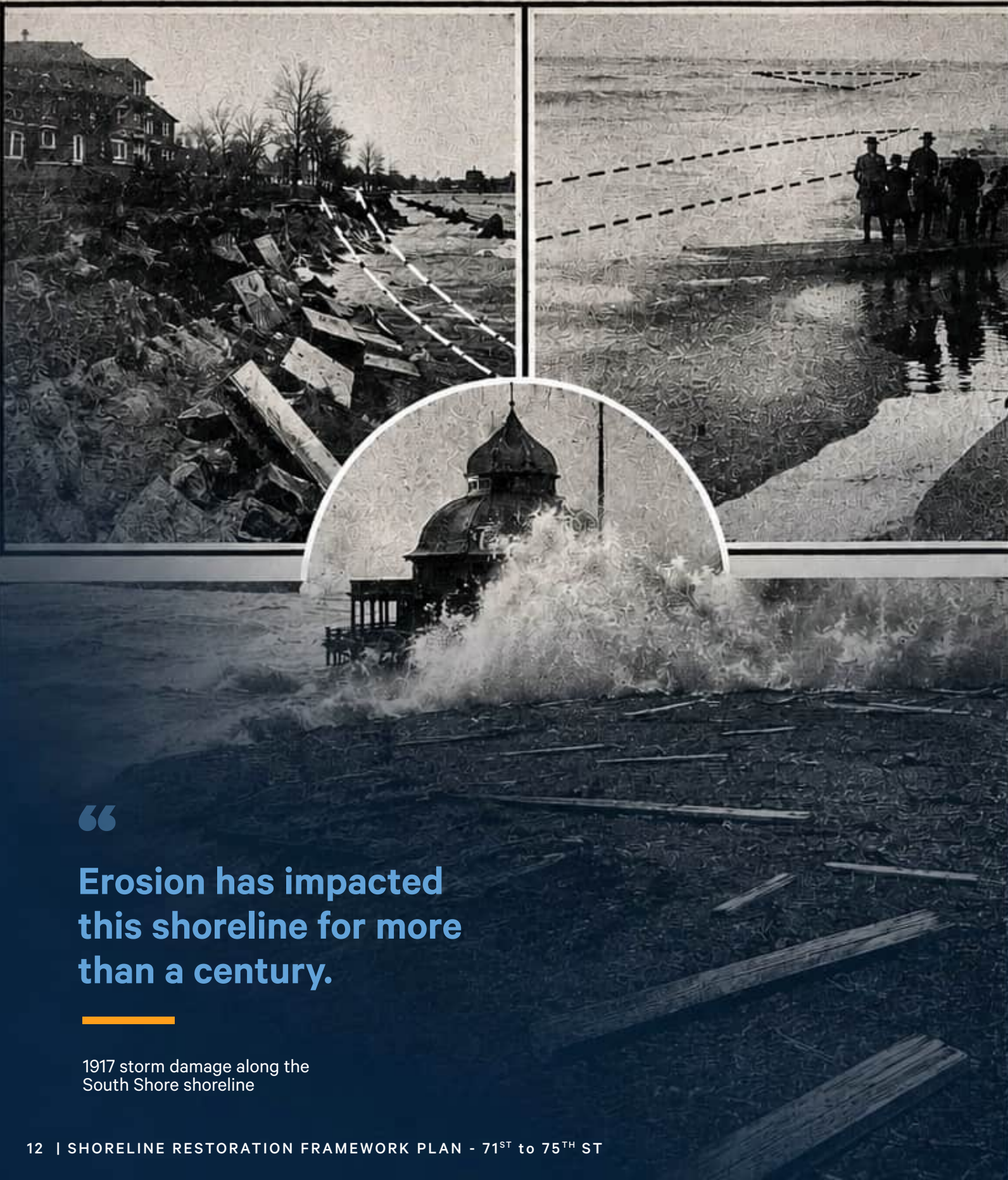
Submerged land within the project area was originally granted to the South Park Commissioners by the State of Illinois under legislation enacted in 1903. These rights were transferred to CPkD following consolidation of the park district system in 1934. As a result, CPkD retains ownership of the lakebed beyond the former Lake Park Avenue right-of-way.

The former Lake Park Avenue right-of-way, approximately 150 feet wide, remains under CDOT jurisdiction and extends into the lake where the road once existed.

To secure federal funding, shoreline improvements must be located on public property and provide protection to public assets. Consistent with CPkD's role as steward of the public lakefront, CPkD owned lakebed areas are not available for new shoreline structures. The engineering team therefore focused on evaluating improvements within the CDOT right-of-way where feasible, while accounting for site specific conditions across the project area.



WHOLE STREETS SWEEP AWAY BY LAKE STORM



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Erosion has impacted this shoreline for more than a century.

1917 storm damage along the South Shore shoreline

HISTORIC RESOURCES SURVEY

A historic resources review was conducted within the project area to support early planning and coordination. The review helps identify historic buildings and places within or near the project area so that potential considerations can be understood as shoreline protection concepts are explored. Identification of historic resources early in the process helps the engineering team to understand where there is potential to directly or indirectly affect historic properties within or near the project area.

Three properties were identified as listed in the National Register of Historic Places:

South Shore Cultural Center
7059 S. South Shore Drive

South Shore Beach Apartments
7321 S. South Shore Drive

Lake-Side Terrace Apartments
7427 S. South Shore Drive

These properties are defined as “historic properties” that are protected by the National Historic Preservation Act (NHPA), which requires agencies to engage in consultation processes and assess project effects, if any are determined to occur, to these properties. If any adverse effects are determined to occur because of a project, agencies must continue consultation to identify ways to avoid, minimize, or mitigate them.

One property was identified as eligible for listing in the NRHP:

2565 E. 72nd Place

This property is previously recorded by the City of Chicago in the Chicago Historic Resources Survey (CHRS) as Orange-rated and by the State Historic Preservation Office (SHPO) as “Undetermined” for listing in the NRHP; therefore, the property is treated as eligible for listing in the NRHP. Properties that are eligible for listing in the NRHP are also defined as “historic properties” and afforded the same protections as NRHP-Listed properties.

Eleven properties were preliminarily recorded and recommended as eligible for listing in the NRHP. The eligibility status of these properties will be confirmed by further review and consultation conducted during future phases of the project, and eligibility status for each property will be subject to review and concurrence by the SHPO. Properties that are determined eligible for listing in the NRHP are also defined as “historic properties” and afforded the same protections as NRHP-listed properties.

AGENCY OUTREACH

Protecting and restoring the shoreline between 71st and 75th Streets requires coordination with multiple agencies, each with specific authority related to land ownership, water resources, navigation, and permitting.



Illinois Department of Natural Resources (IDNR):

IDNR regulates construction and fill activities in and along Lake Michigan within the ordinary high-water mark. Coordination focused on permitting requirements and regulatory feasibility of offshore and onshore shoreline protection measures considered in this study.



Chicago Park District (CPkD):

CPkD owns and manages public parkland, including Arthur Ashe Beach, and owns the lakebed beyond the CDOT right-of-way within the project area. Coordination confirmed that CPkD-owned lakebed areas are not available for new shoreline improvements.



Chicago Department of Water Management (CDWM):

CDWM protects water quality and manages critical water infrastructure near the shoreline. Coordination addressed existing shoreline structures, potential subsurface tunnels, and ensuring that proposed shoreline solutions do not adversely affect water operations.



United States Coast Guard (USCG):

USCG is responsible for navigation safety and mariner awareness in Lake Michigan. Coordination focused on navigational considerations, notification requirements, and review of proposed offshore structures during future permitting.



United States Army Corps of Engineers (USACE):

USACE regulates in-water construction through federal permitting and oversees federally authorized shoreline projects. Coordination confirmed that USACE is planning a separate, related shoreline study focused on offshore solutions within the project area.

Early coordination

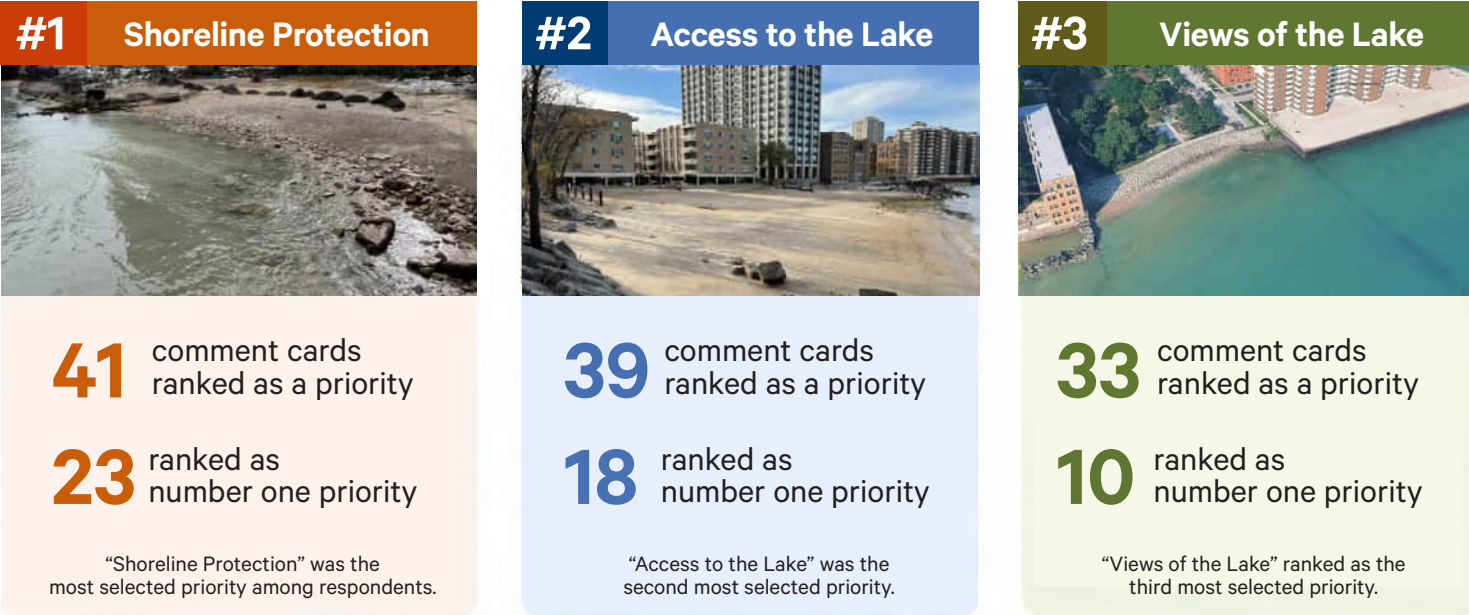
during the feasibility study helps identify jurisdictional limits, constraints, and opportunities that shape which shoreline protection solutions are possible.

PUBLIC OUTREACH & ENGAGEMENT

Public involvement is a key part of this feasibility study and builds on prior outreach conducted in the project area. In 2019, CDOT and USACE held public meetings to inform residents about rising Lake Michigan water levels, coastal storm damage, and emergency response efforts. Meetings held on December 2nd and December 5th, 2019, focused on increasing community awareness of shoreline erosion risks, recent storm impacts, and near-term stabilization measures. These efforts provided important context for the shoreline challenges that have led to the current study.

As part of the current feasibility study, an initial public meeting was held on March 18th, 2026, to introduce the project, share existing conditions, and gather input from residents and stakeholders. Attendees were invited to ask questions, share concerns, and complete comment cards. Feedback emphasized the importance of shoreline protection, maintaining access to the lake, preserving lake views, and minimizing impacts to nearby properties.

Comment Card Priority Ranking Results: At the first public meeting, attendees were given comment cards to provide feedback to the project team. Attendees submitted **41 comment cards** that rank their priorities – these are the main takeaways:



A second public meeting was held on June 4th, 2026, to present the draft feasibility study findings and conceptual shoreline protection approach. Attendees provided feedback on the proposed concepts, project priorities, and future implementation considerations. Additional written comments were received following the meeting. The project team recognizes the feedback received and is committed to evaluating it in greater detail during future project phases through engineering analysis, coastal modeling, stakeholder coordination, and additional public engagement.



In addition to broader public outreach, the project team has coordinated with the **South Side Lakefront Erosion Task Force**, a community-based group focused on shoreline erosion along the South Shore lakefront. Coordination with the Task Force provided an opportunity to share information about the feasibility study, understand community perspectives, and confirm how this study relates to other shoreline efforts in the area. Feedback from the Task Force emphasized the importance of maintaining lake access, evaluating more targeted shoreline protection measures, minimizing impacts to existing shoreline conditions, and further studying the size, configuration, and potential effects of offshore breakwaters.

The project team recognizes the South Side Lakefront Erosion Task Force as a key stakeholder representing community interests along the shoreline. Continued coordination is valuable and plays an important role in supporting clear communication, alignment with community interests, and the overall success of the project as it moves forward.

ECOLOGY

An initial ecological screening was conducted to identify potential natural resource considerations within the project area. This high-level review included state and federal database searches (EcoCAT and USFWS IPaC) to identify threatened and endangered species and other sensitive resources that may be present.



“The shoreline supports a range of ecological resources that will be considered throughout planning, design, and implementation.”

Ecological Compliance Assessment Tool EcoCAT

An EcoCAT listing of State protected Species was obtained from the Illinois Department of Natural Resources in May 2026, which included the following species that may be present within the vicinity of the project location:

Black-Crowned Night-Heron (<i>Nycticorax nycticorax</i>)	Marram Grass (<i>Ammophila breviligulata</i>)	Pitcher's (Dune) Thistle (<i>Cirsium pitcheri</i>)	Bearberry (<i>Arctostaphylos uva-ursi</i>)	Golden Sedge (<i>Carex aurea</i>)	Jack Pine (Pinus banksiana)	
	Sea Rocket (<i>Cakile edentula</i> var. <i>lacustris</i>)	Seaside Spurge (<i>Chamaesyce polygonifolia</i>)	Kalm's St. John's Wort (<i>Hypericum kalmianum</i>)	False Asphodel (<i>Tofieldia glutinosa</i>)		

Consultation with the IDNR will be conducted during the design stage to determine if any action is needed to avoid potential impacts to these resources.

USFWS IPaC

An IPaC Resource List was obtained in May 2026, which includes a list of threatened and endangered species and other resources such as critical habitat (collectively referred to as trust resources) under the US Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area.

BIRDS				PLANTS			REPTILES & INSECTS			
	Piping Plover <i>Charadrius melodus</i>	Rufa Red Knot <i>Calidris canutus rufa</i>	Bald and Golden Eagles		Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i>	Leafy Prairie-clover <i>Dalea foliosa</i>		Eastern Massasauga (rattlesnake) <i>Sistrurus catenatus</i>	Hines Emerald Dragonfly <i>Somatoclora hineana</i>	Monarch Butterfly <i>Danaus plexippus</i>

The IPaC concluded that there are no critical habitats at this project location. Consultation with the USFWS will be conducted during the design stage to determine if any action is needed to avoid potential impacts to these resources.

COASTAL STRATEGIES

Shoreline erosion along this stretch of Lake Michigan is driven by the combined efforts of wave action and high water levels, particularly during large storm events. For shoreline protection strategies to be effective over the long term, they must address both of these forces together.

Wave energy can erode the shoreline directly upon impact and accelerate damage to existing infrastructure. At the same time, elevated lake levels allow waves to travel farther inland, increasing the risk of flooding, overtopping, and land loss due to erosion as flood waters recede. Alternatives evaluated in this feasibility study are therefore orchestrated to reduce wave energy before it reaches the shore, limit the impacts of high water levels along the shoreline edge, and provide direct stabilization where erosion is occurring.

As these shoreline solutions were developed, careful consideration was also given to where different types of improvements can feasibly be located. Offshore features were generally evaluated within the existing CDOT right-of-way, reflecting property ownership constraints and funding requirements, while onshore and nearshore measures may still be needed along portions of the shoreline to protect against high water. Where solutions extend onto private property, additional coordination and agreements with property owners will be required.

This feasibility study evaluates how different shoreline protection measures can work together under these conditions to respond to the varying challenges along the project area.

SHORELINE PROTECTION FRAMEWORK PLAN

SHORELINE PROTECTION TOOLBOX

Four general shoreline protection measures are evaluated as part of this study and are predecisional in advance of considering actual mitigation measures for the reach. These tools are not mutually exclusive and may be combined to create effective, site-specific solutions. Each tool offers different benefits and tradeoffs related to protection, access, constructability, and long-term performance. The following pages describe each tool.

OPTION 1

BREAKWATER



Reduces wave energy offshore before it reaches the shoreline

Best for:

Maintaining beach access while reducing wave impact

OPTION 2

WAVE SCREEN



Structural barrier that reduces wave energy with a relatively narrow footprint

Best for:

Wave reduction where space or footprint is limited

OPTION 3

REVETMENT



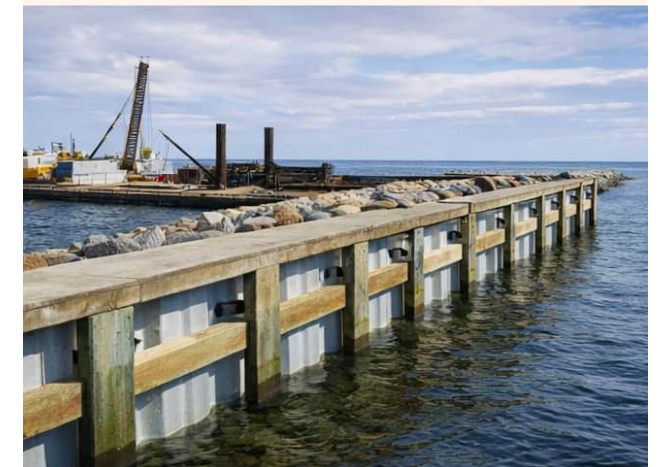
Armors the shoreline to reduce erosion and stabilize the edge

Best for:

Direct shoreline protection in erosion-prone areas

OPTION 4

BULKHEAD / SEAWALL



Vertical structure providing protection from waves and high water

Best for:

High-risk areas needing strong, long-term protection

OPTION 1: OFFSHORE BREAKWATER



WHAT IT IS



Consists of engineered large diameter
revetment stones



Absorbs and dissipates
energy from waves



Constructed in open water



Can be interspersed with plantings and
tide/splash tools to support habitat

PROS

- ✓ Protection from waves
- ✓ No loss of beach access
- ✓ Can support vegetation and habitat
- ✓ Long life-cycle
- ✓ Constructed in open water — no direct
impact to private property

CONS

- ✗ No protection from high water level
- ✗ No direct protection to shoreline
- ✗ Large physical footprint
- ✗ Located in navigable waters — may create
permitting / construction difficulty



KEY POINT: Reduces wave energy offshore but provides limited direct shoreline protection.

OPTION 2: OFFSHORE WAVE SCREEN



WHAT IT IS



Consists of structural piles and
wave panels



Absorbs and dissipates
energy from waves



Constructed in open water



No significant opportunity for habitat

PROS

- ✓ Protection from waves
- ✓ No loss of beach access
- ✓ Relatively small footprint (5–10 ft)
- ✓ Constructed in open water — no direct
impact to private property

CONS

- ✗ No protection from high water level
- ✗ No direct protection to shoreline
- ✗ Located in navigable waters — may create
permitting / construction difficulty
- ✗ No significant opportunity for habitat



KEY POINT: Reduces wave energy offshore but does not directly stabilize the shoreline.

OPTION 3: REVETMENT



WHAT IT IS



Engineered armored stone revetment along the existing shoreline



Can include planted revetments where site conditions allow



Replaces failed or non engineered shoreline protection



Applicable to existing revetment areas or unprotected beach slopes



Can integrate vegetation and habitat elements

PROS

- ✓ Protection from erosion
- ✓ Minimal loss of sightlines
- ✓ All work done is above water to limit permitting and construction impacts
- ✓ Can support vegetation and habitat

CONS

- ✗ Coordination needed on private property
- ✗ May limit beach access
- ✗ Limited protection during high water events

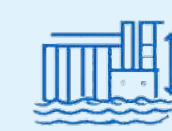


KEY POINT: Provides direct shoreline stabilization with strong erosion protection, while balancing visibility and habitat opportunities.

OPTION 4: SHORELINE BULKHEAD/SEAWALL



WHAT IT IS



New steel sheet pile or concrete bulkhead/seawall to selected elevation



Can be used across varying elevations



Can step the seawall for tide pools/plantings



Provides a continuous structural barrier along the shoreline

PROS

- ✓ High level of protection
 - Protects against waves, high water, and erosion
- ✓ Increased flood protection to localized areas
- ✓ Minimal physical footprint
- ✓ All work is done above water to limit permitting and construction impacts
- ✓ Can provide opportunity for vegetation and habitat
- ✓ Provides structural protection to buildings and public infrastructure, including city streets

CONS

- ✗ Access to beach may be cutoff/limited
- ✗ Can affect sightlines
- ✗ Requires construction and maintenance on private property

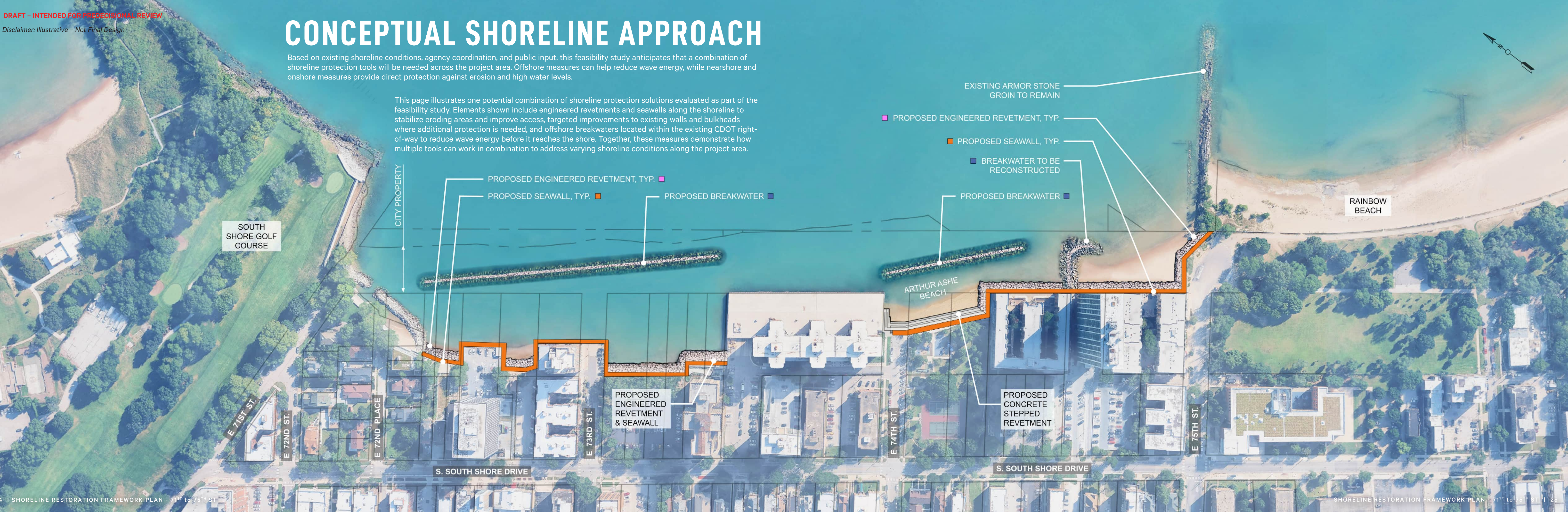


KEY POINT: Provides the highest level of direct shoreline protection but introduces a hard edge condition that may impact access, views, and adjacent properties.

CONCEPTUAL SHORELINE APPROACH

Based on existing shoreline conditions, agency coordination, and public input, this feasibility study anticipates that a combination of shoreline protection tools will be needed across the project area. Offshore measures can help reduce wave energy, while nearshore and onshore measures provide direct protection against erosion and high water levels.

This page illustrates one potential combination of shoreline protection solutions evaluated as part of the feasibility study. Elements shown include engineered revetments and seawalls along the shoreline to stabilize eroding areas and improve access, targeted improvements to existing walls and bulkheads where additional protection is needed, and offshore breakwaters located within the existing CDOT right-of-way to reduce wave energy before it reaches the shore. Together, these measures demonstrate how multiple tools can work in combination to address varying shoreline conditions along the project area.



COMBINED SHORELINE APPROACH - DETAILS

The conceptual shoreline protection plan shown on the previous page reflects a combination of physical conditions, funding considerations, property ownership, and agency coordination. It is not a final design, but an illustration of what a feasible, coordinated approach could look like within existing constraints.

To support eligibility for future federal funding and reflect confirmed property ownership limits, offshore shoreline protection features were evaluated within the existing CDOT right-of-way. Offshore structures are not proposed on CPkD-owned lakebed areas. Additional shoreline solutions near 71st Street are anticipated to be addressed in coordination with CPkD as part of future planning efforts.

At Arthur Ashe Beach, the conceptual plan reflects the stated preference to restore shoreline conditions similar to those that existed prior to significant erosion and the installation of temporary measures. As a result, the concept includes a **concrete stepped revetment** with potential for **ADA access**, balancing shoreline protection, durability, and public use.

While offshore features help reduce wave energy, onshore measures are necessary in some locations to protect against high water levels and direct erosion. Portions of these improvements may extend along privately owned shoreline areas. Any future shoreline protection on private property would require coordination, agreements, and willing participation from individual property owners. No acquisition of private property is proposed or anticipated as part of this feasibility study; all concepts are developed to work within existing public ownership and through voluntary coordination where needed.

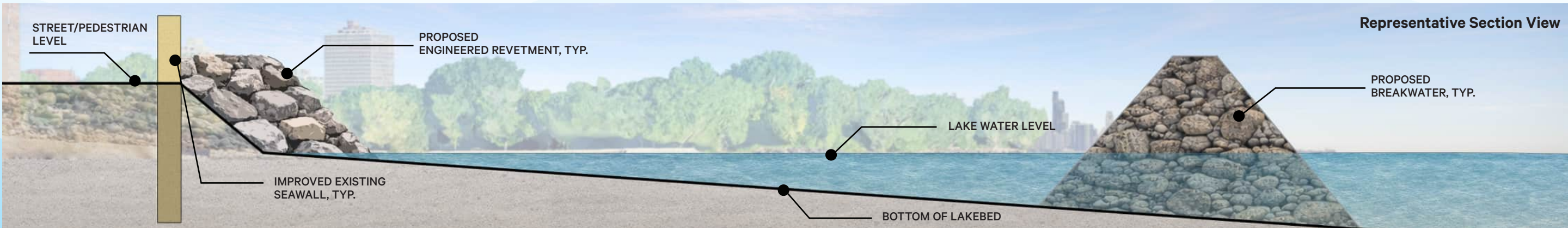
The feasibility study evaluated offshore **breakwaters** rather than wave screens as the primary offshore solution. Breakwaters were identified as a less invasive option with fewer structural elements, a longer life-cycle, and established local construction and maintenance experience along the Chicago shoreline. This approach is also conceptually consistent with ongoing USACE offshore planning efforts in the area.

Both revetments and breakwaters present opportunities to incorporate green infrastructure elements to support habitat and shoreline ecology.

Finally, the conceptual plan assumes the removal of failed or temporary emergency shoreline measures were practical, allowing them to be replaced with more durable, coordinated solutions.

Key Assumptions

- Conceptual plan shows **feasible ideas**, not a final design
- Solutions address **both wave energy and high water**
- Offshore features are considered **within the CDOT right-of-way**
- No improvements are proposed on **CPkD-owned lakebed**
- Some locations require **onshore protection**
 - Proposed improvements on private property would require owner **coordination and agreement**
- Revetments and breakwaters may incorporate **green infrastructure elements** to support habitat and ecological function



Following this Framework Plan, PBC and its partners will continue refining shoreline protection strategies through coordination with agencies, stakeholders, and the public. Future phases may include detailed modeling, design, permitting, and construction, subject to funding and approvals.

This Framework Plan provides a shared understanding of existing conditions, challenges, and feasible paths forward for protecting the shoreline between 71st and 75th Street.

For more information, contact PBC at PBC@PBCChicago.com.