

Agenda - Lakefront Plan Development

Lakefront Basics

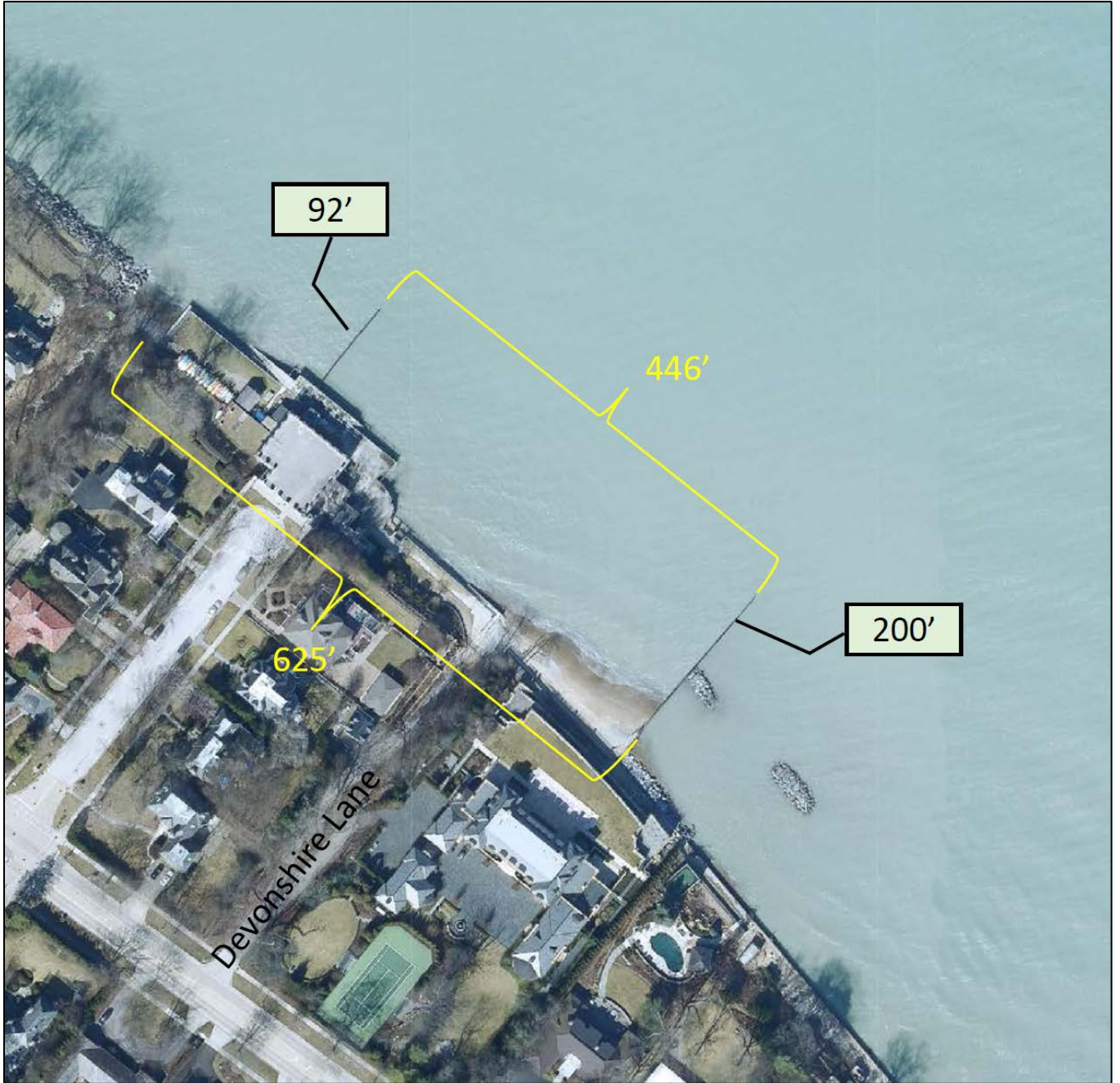
- Lake Michigan water levels over time
- Kenilworth beaches at different water levels
- Neighboring community approaches to shore protection
- Kenilworth Beach lakefront usage (Swimming Beach, Boating Beach)
- 2017 Plan Commission Community Feedback – approach and key take-aways

Proposed Approach for Developing a Limited Range of Shore Protection Options

Proposed Approach to Developing a Limited Range of Building Options

Next Steps

Kenilworth Lakefront



Kenilworth Lakefront Enhancements - Constraints

Small Land Area – approximately 625 ft lakefront frontage encompassing swimming and boating beaches

Location - end of a residential block

Very limited parking, no easy way to increase

Financial – some alternatives are very expensive and we must keep in mind that Kenilworth is committed to/considering a range of other major investments throughout the Village (major Sears School renovation, Green Streets and other infrastructure projects, Kenilworth Assembly Hall updates, Townley Field improvements, Green Bay Road Corridor)

Lake Michigan Water Levels – Summary

Beach size is largely driven by Lake Michigan water level and effectiveness of shore protection

Lake Michigan water levels vary by over 6 feet; large shifts can occur over several years as we saw from 2014 – 2020 when the lake went from record breaking monthly lows to highs

Changes are driven by precipitation levels, winter evaporation rates linked to temperature and ice coverage and flows from Lake Superior

Water levels are also seasonal, peaking in mid-summer

Plus, beach shape and size change due to wind direction shifts and wave action

Lake levels have dropped over 2 feet from 2020 highs and are currently more than 1 ½ feet below 2021 – good news for 2022 beach season

Future lake levels??? No one really knows, but larger swings are projected due to climate change. More severe storms may cause more erosion and damage at higher lake levels

Kenilworth Beach Usage Summer 2021

Swimming Beach

1812 season passes purchased (433 households, 46 non-resident)

Season runs from early June through Labor Day, due to staff shortage, lifeguards were not at beach all weekdays

Peak arrival times are noon to 4pm, peak days are Friday (camp beach day), Saturday and Sunday

Beach log data

- 400+ people – 1 day
- 300-400 people – 2 days
- 200 – 300 people – 5 days
- Fewer than 200 people – majority of days, some days below 100

Number of people at beach at one time (estimated)

- Usually fewer than 75 and frequently less than 50, especially in the morning
- Periods of 75-100 people, generally Fridays, Saturdays and Sundays
- peak days there were around 150 people for a limited time during the afternoon

Boating Beach

- 134 family members
- Fleet of sailboats, paddleboards and kayaks plus storage for member watercraft
- Open daily 9am – 6pm
- Strong camp attendance (25% annual growth last 2 years)

Kenilworth Lakefront - Community Feedback

Village of Kenilworth: Former Water Treatment Plant and Beach Area -08172017 Community Input					
Stakeholder	Methodology	Participants	Commissioner	Remarks	Date / Location
Sailing Club	Focus Group	President + Member Rep	Winslow, Berman	2nd focus group w/younger members	July 8 / Beach
Park District	Focus Group	Board + Staff Member	Johnson, Berman	Include Little Springs and Sports Camp	Aug. 16 / Beach
Pre-School	Focus Group	ATBB Director and JK Instructor	Madigan, Thompson	Joint Focus Group	July 19 / Holy Comforter
Immediate Neighbors	Focus Group	Kenilworth Avenue, Homes adjacent to beach	Thompson, Mohr	From Beach West to Raleigh	Aug 15 7pm / Village Hall
Beach Administration	Interview	Staff + Police	Thompson, Johnson		July 26 / Village Hall
Scars School JSPVA	Interview	School Superintendent and JSPVA President	Mohr, Madigan		July 18 /
Beach Goers	Survey, Focus Group	Beach Pass Applicants	Mathias	Issued by Staff - 71 responses	Complete
Council of Garden Clubs / Beautification Committee	Interview	Representatives of 4 clubs	Winslow, Madigan		Aug 4 / Village Hall ??
Kenilworth Historical Society	Interview	Ginny Anderson	Thompson, Madigan	Report from Society forthcoming	7-Aug
All Residents	Survey	800+ Households	Task Force + All Commissioners	Digital from Website and Mailed Hardcopy	August 21 / Village Hall

Kenilworth Lakefront - Community Feedback

“Gem” of community

A major reason residents select Kenilworth

Overlook has one of the best lake views along Northshore - used by Kenilworth and nearby community residents from sunrise to sunset, all year long

Overlook, Swimming Beach and Sailing Beach are all essential

Neighborhood beach

Community social gathering spot – ok if feels crowded at peak times

Desired amenities

- beach chairs, umbrellas, games (added pre-covid)
- upgraded bathrooms and changing areas, potentially lockers
- new food options, potentially year round
- Indoor space (range potential uses, including rentals)

Want beach with natural look at feel, minimize rocks in water (dangerous, especially on KSC side, unattractive, may block views)

Opportunity to better utilize grass and cement areas on both sides

Need to keep in mind location – in a neighborhood, limited parking

Enhancements Not Major Reinvention

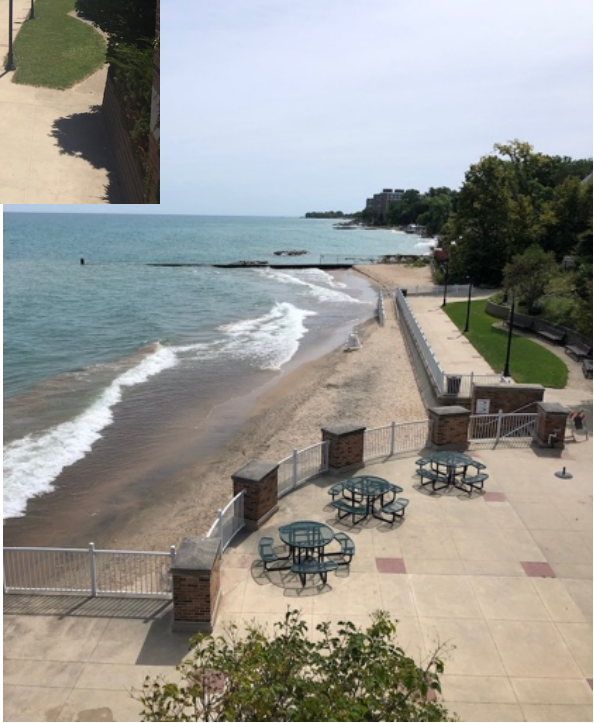
Shore Protection Strategies Along Northshore

Most of the Northshore Shoreline is Heavily Engineered

Range of Approaches

- Revetment and seawalls -designed to protect land vs. maintain beaches
- Groins (Multiple communities including Kenilworth)
 - o Widely used, especially for main swimming beaches
 - o At right locations along Lake Michigan, effectively trap sand and maintain beaches during most lake levels
 - o Minimal visual impact
 - o Periodic sand nourishment can be an effective tool
- Cove beach systems (Winnetka, Highland Park, Lake Bluff, Lake Forest)
 - o Rock structures effectively trap sand at almost all water levels – best option for when need larger beach size at all lake levels and for locations that often do not have beach
 - o Very expensive - \$4M plus
 - o Requires significant initial sand nourishment and often ongoing replenishment (sand added is more coarse and often a different color)
 - o Negative visual impact of rocks
 - o Lower water quality at times (less water low flow, rocks attract gulls and other birds)

Kenilworth Lakefront at Different Water Levels



The 200 ft South Groin is Effective – Kenilworth Retains a Swimming Beach Even at Highest Lake Levels as Well as a Boating Beach for Most Lake Levels



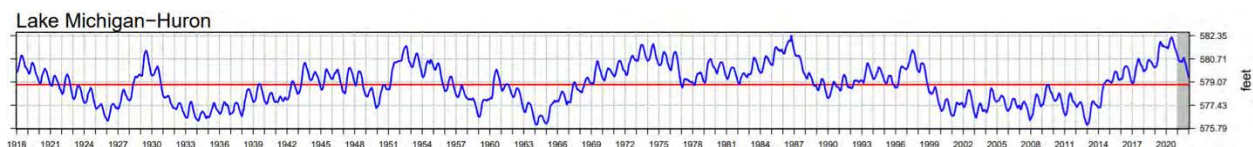
El. 580.6 ft (approx.)

September 2018

Exceeded in 12 of the past 104 years.

If we use this as a benchmark, then planning for a 10-year beach renourishment cycle (avg.) could potentially maintain the beach at the extents shown in this image.

[The elevations on chart are in International Great Lakes Datum (1985)]



**Working Hypothesis – We Can Maintain a Sufficient Beach Size
with Periodic Sand Nourishment and Modest and/ or Modest
Shore Protection Enhancements; Expensive Cove Beach
System Not Necessary**

Water Plant Building Reuse vs New Construction

- Overlook is essential so lower building footprint not an option
- Building removal likely to be expensive and may require significant new bluff support as well as expanded shore protection infrastructure
- Water plant is structurally sound per 2018 evaluation
- Do not have to build out entire building; can phase renovation
- Still have opportunities to modify building and/or reduce hardscape footprint to improve lakefront functionality

Recommendation – Renovate Existing Water Plant Facility

Potential Next Steps

- Engage consultant to develop and create ballpark estimates for 2-3 shore protection enhancement options (Spring)
- Confirm that there are no significant structural issues related to building, tanks or other structures (Spring)
- Lakefront Master Planning Committee to develop list of discrete improvement options and programming opportunities (i.e. new bathrooms and changing areas at beach level, top floor space with large windows and small commercial kitchen, new layout for KSC to increase area available for other recreation activities) (Spring/Summer)
- Broader Village Board review
- Solicit broad based feedback from community on refined list of options (Summer/Fall)