



Cleveland  
Metroparks

COME OUT  
AND PLAY

# Perkins Beach Groin Rehabilitation Edgewater Park



August 20, 2015

Sean E. McDermott, P.E.  
Chief Planning and Design Officer



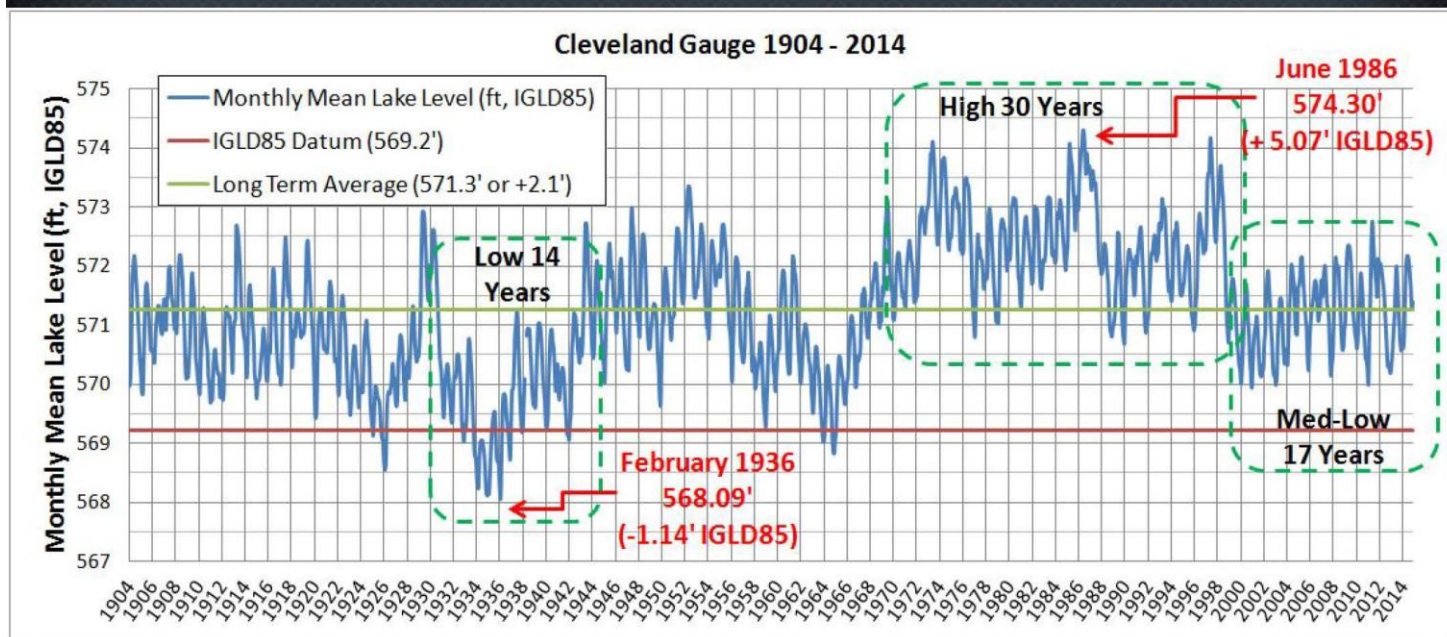
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# Perkins Beach and Edgewater Beach

## Due Diligence – Lake Level Analysis

### Static Water Levels | Cleveland Gauge



Baird



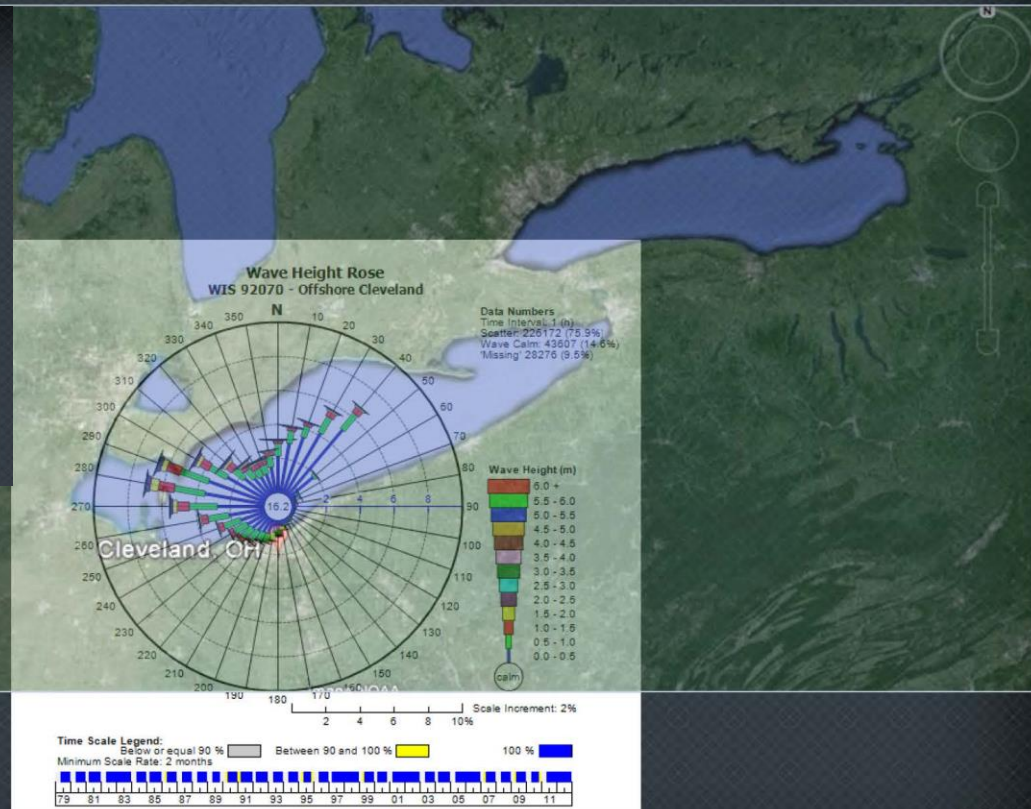
# Perkins Beach and Edgewater Beach

## Due Diligence – Lake Level and Wave Height Analysis

### Offshore Hindcast Waves

#### Design Water Levels

Return Period (years)	Monthly Mean Lake Level (ft, CD)	Storm Surge (ft, CD)	Combined Water Level <sup>1</sup> (ft, CD <sup>2</sup> )
2	3.3	1.4	4.9
5	4.1	1.7	5.6
10	4.6	1.9	6.0
20	5.0	2.1	6.3
25	5.2	2.2	6.4
50	5.6	2.4	6.7
100	6.1	2.7	7.0
<b>Max Recorded Condition</b>	<b>+5.1 (June, 1986)</b>	<b>+2.6 (February 24, 1990)</b>	<b>+6.1 (February 2, 1987)</b>



Baird





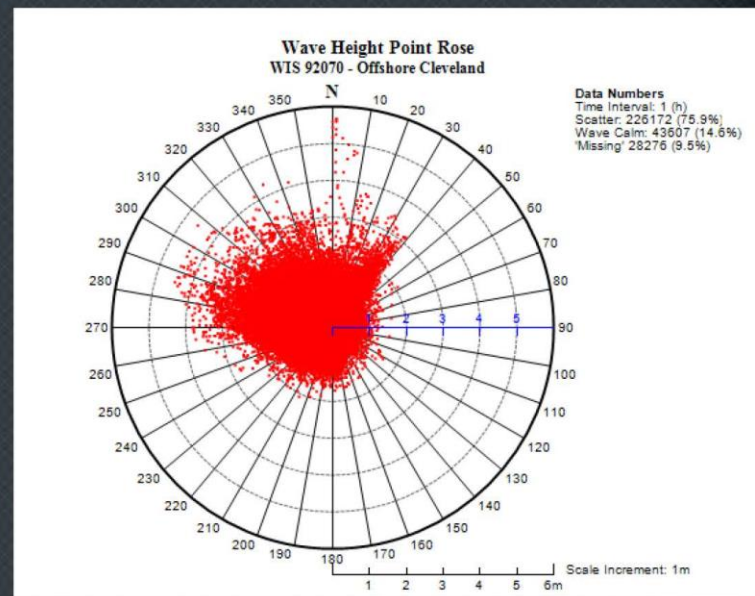
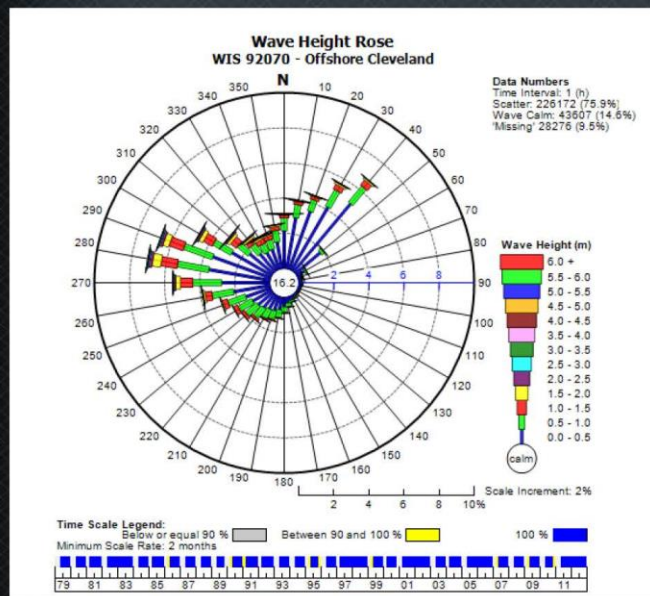
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## Due Diligence – Lake Level and Wave Analysis

### Offshore Hindcast Waves



Prevalent waves from W

Largest storms from the north

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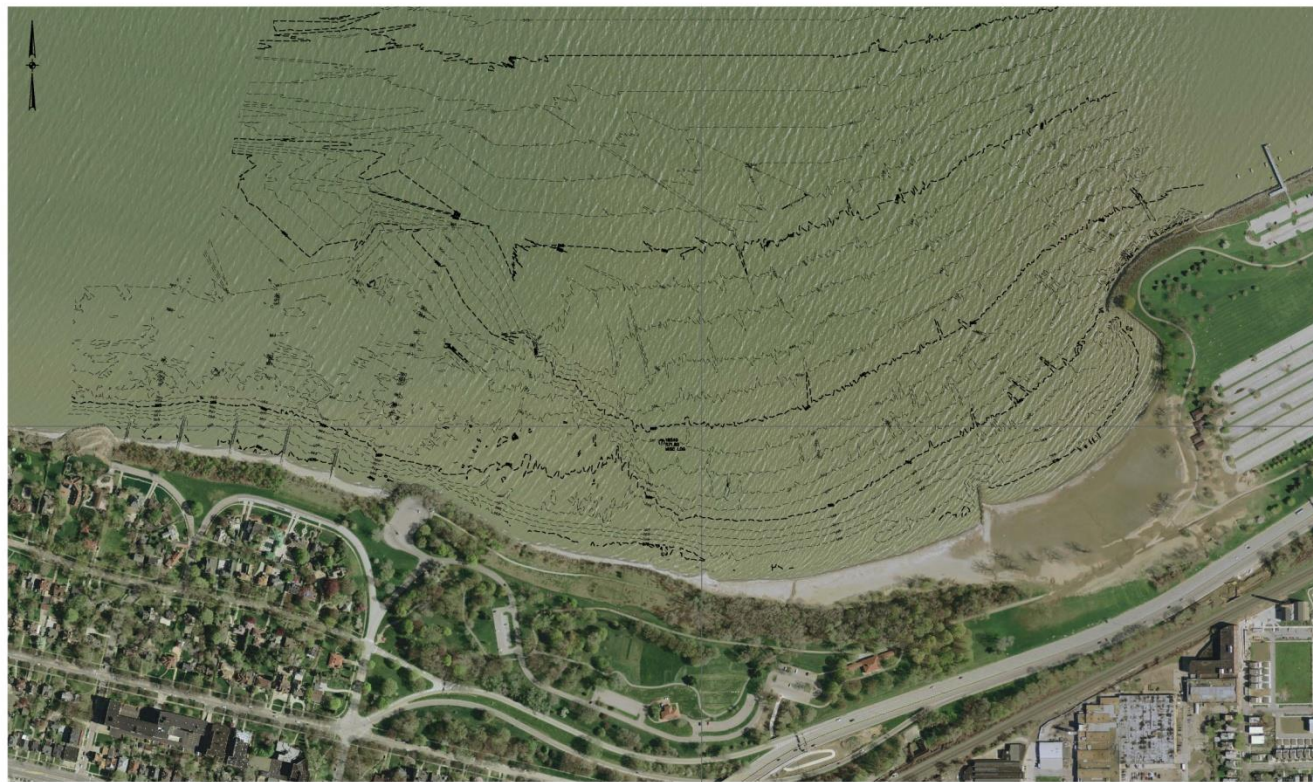
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# Perkins Beach and Edgewater Beach

## Due Diligence – Hydrographic Survey



REVISIONS

DATE	DESCRIPTION	BY

### SITE PLAN



SCALE IN FEET  
SCALE 1"=200'

### NOTES

1. VERTICAL DATUM IS IGLD 1985.
2. BATHYMETRIC SURVEY PERFORMED BY KS ASSOCIATES INC. ON OCTOBER 2, 2014 AND OCTOBER 13, 2014.

CLIENT / PROPERTY / OWNERS  
 WILLIAM S. TRANKER  
 1301 HOMEWOOD DR., LAKEWOOD, OH 44107  
 JAMES RAMBASKI  
 13455 CLIFF DRIVE, LAKEWOOD, OH 44107  
 DATUM: D.O. L.W. = 569.2 FEET IGLD 1985

DWG. NO. \_\_\_\_\_  
 SHEET NO. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 SCALE \_\_\_\_\_

KS Associates, Inc.  
 250 Burns Road, Suite 100  
 Elyria, OH 44035  
 P 440 325 4700  
 F 440 365 4790  
 www.kssurvey.com  
**KS ASSOCIATES**

BATHYMETRIC SURVEY  
 EDGEWATER PARK  
 CITY OF CLEVELAND  
 COUNTY OF CUYAHOGA  
 STATE OF OHIO

SHEET  
 1  
 OF  
 1  
 JOB NO.  
 14233



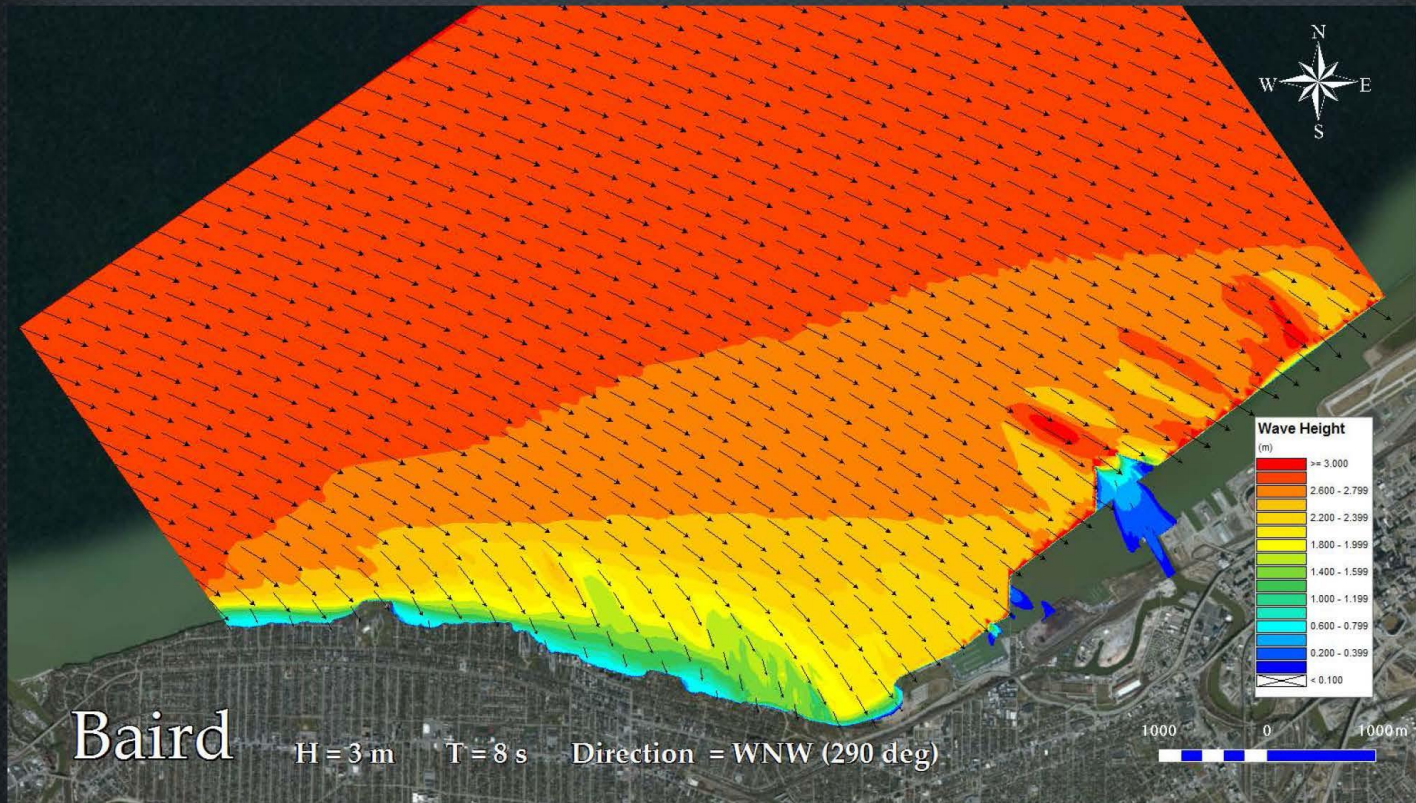
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## Nearshore Transformation



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Significant refraction from WNW waves

# Perkins Beach

## Site Visit | Perkins Beach



Beach tapers east to west  
Arcs between groins

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# Perkins Beach

## Site Visit | Perkins Beach



Rubble west end

Empty piers



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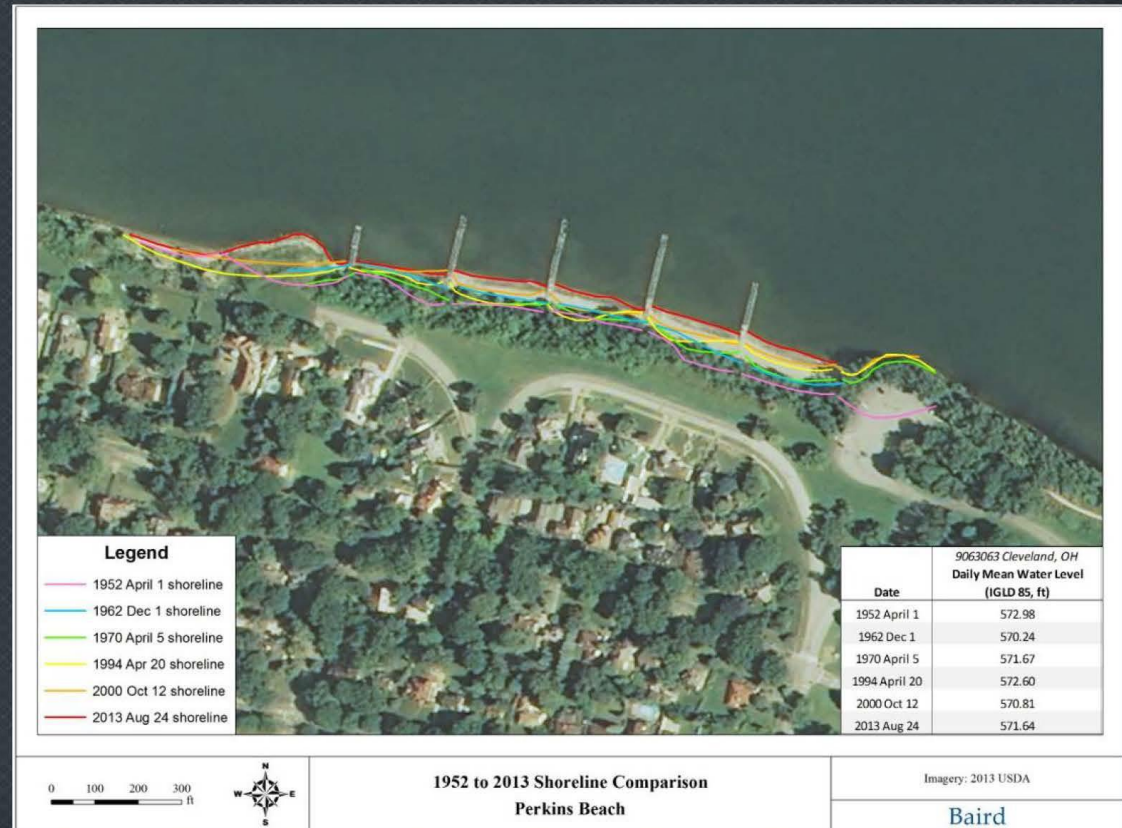
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## GIS Comparison | Perkins Beach



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# Perkins Beach



1949



1956



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# Edgewater Beach

## Site Visit | Edgewater Beach



Beach tapers east to west

Salients develop behind concrete modules

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