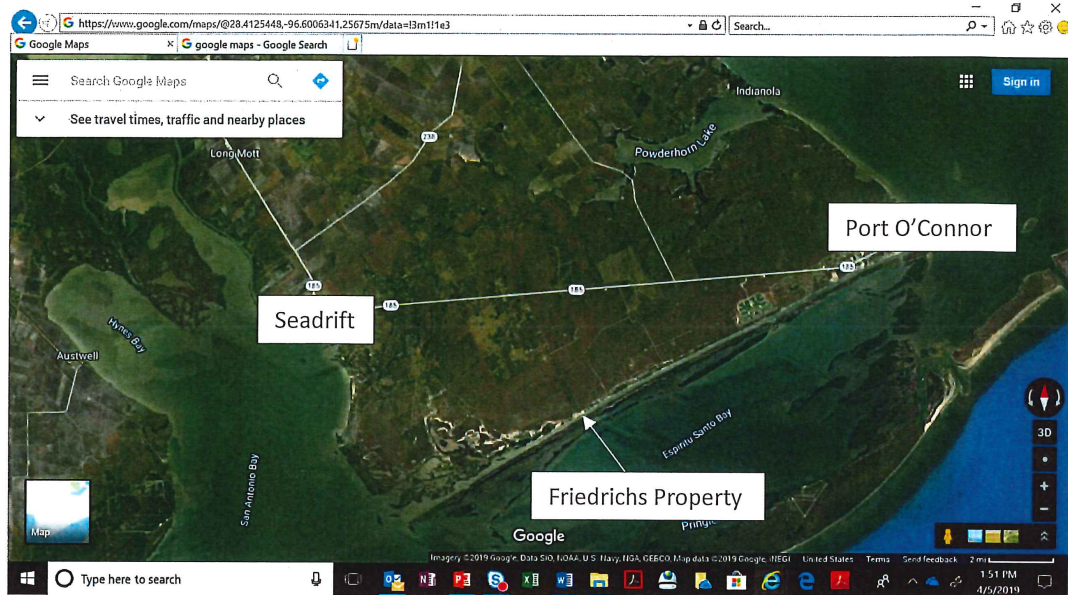


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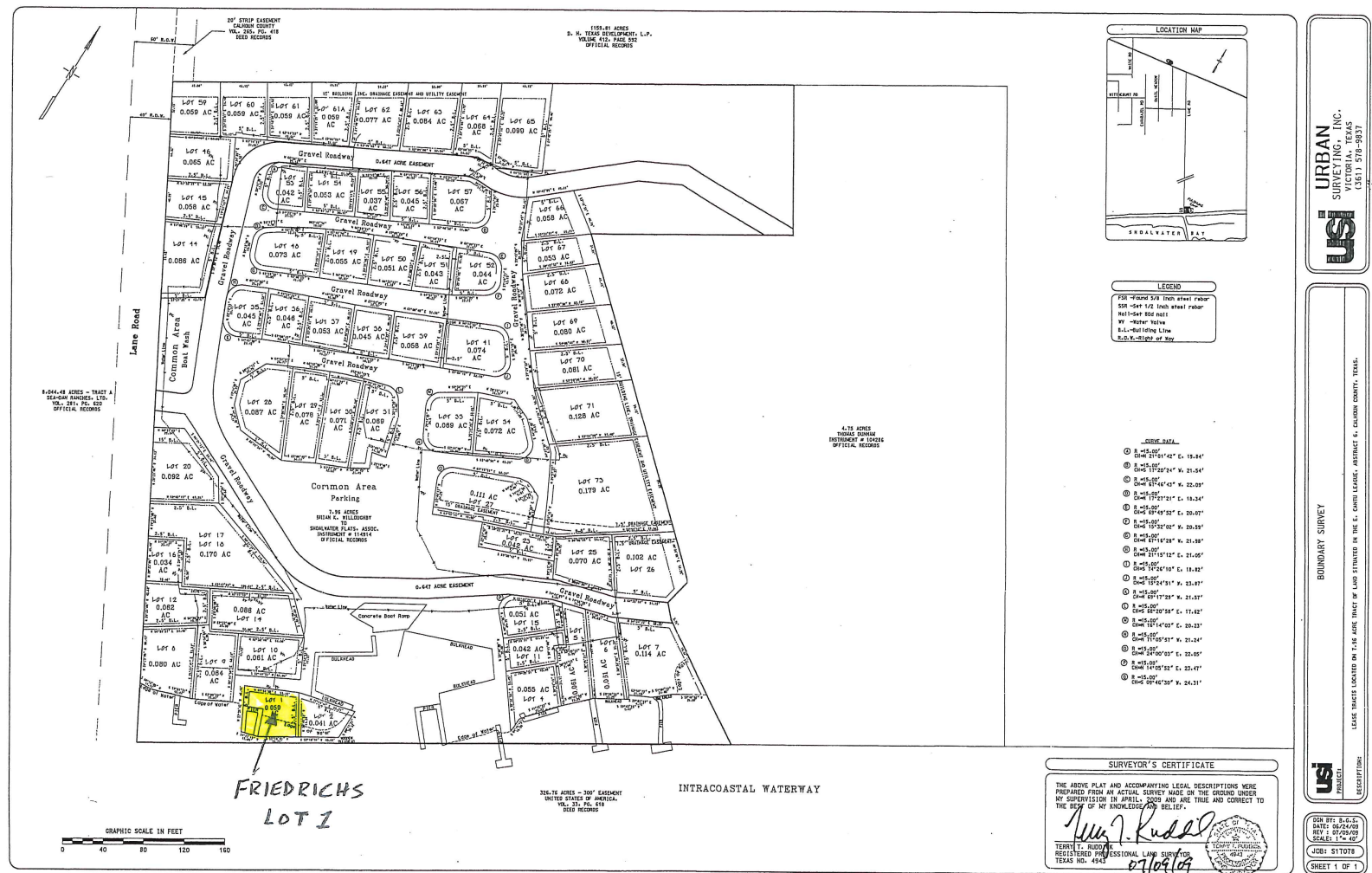
SHEET 1 of 10

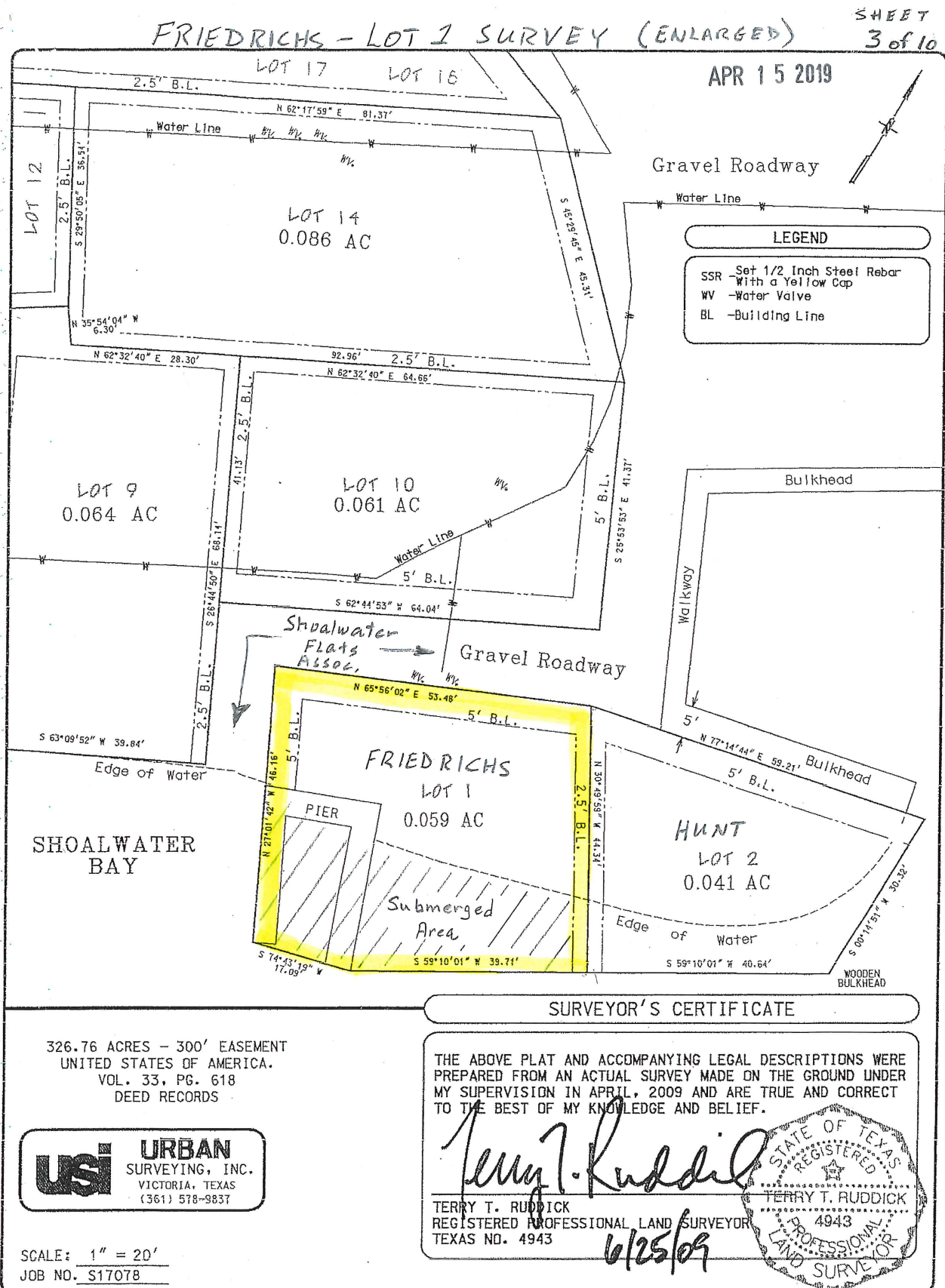
Property Location Map – Friedrichs – Lot 1



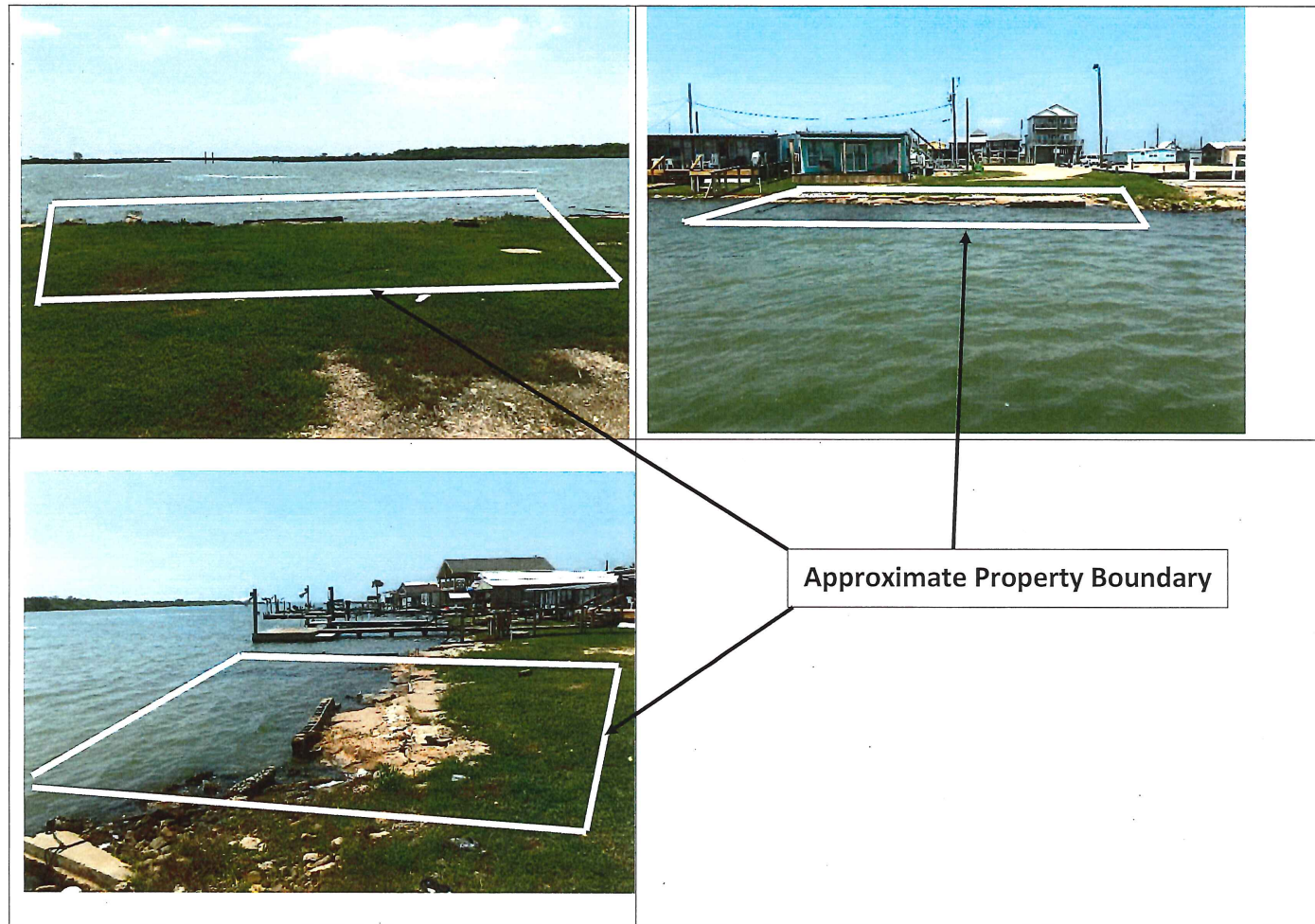
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FRIEDRICHS
LOT 1





Friedrichs –Photographs of Subject Property

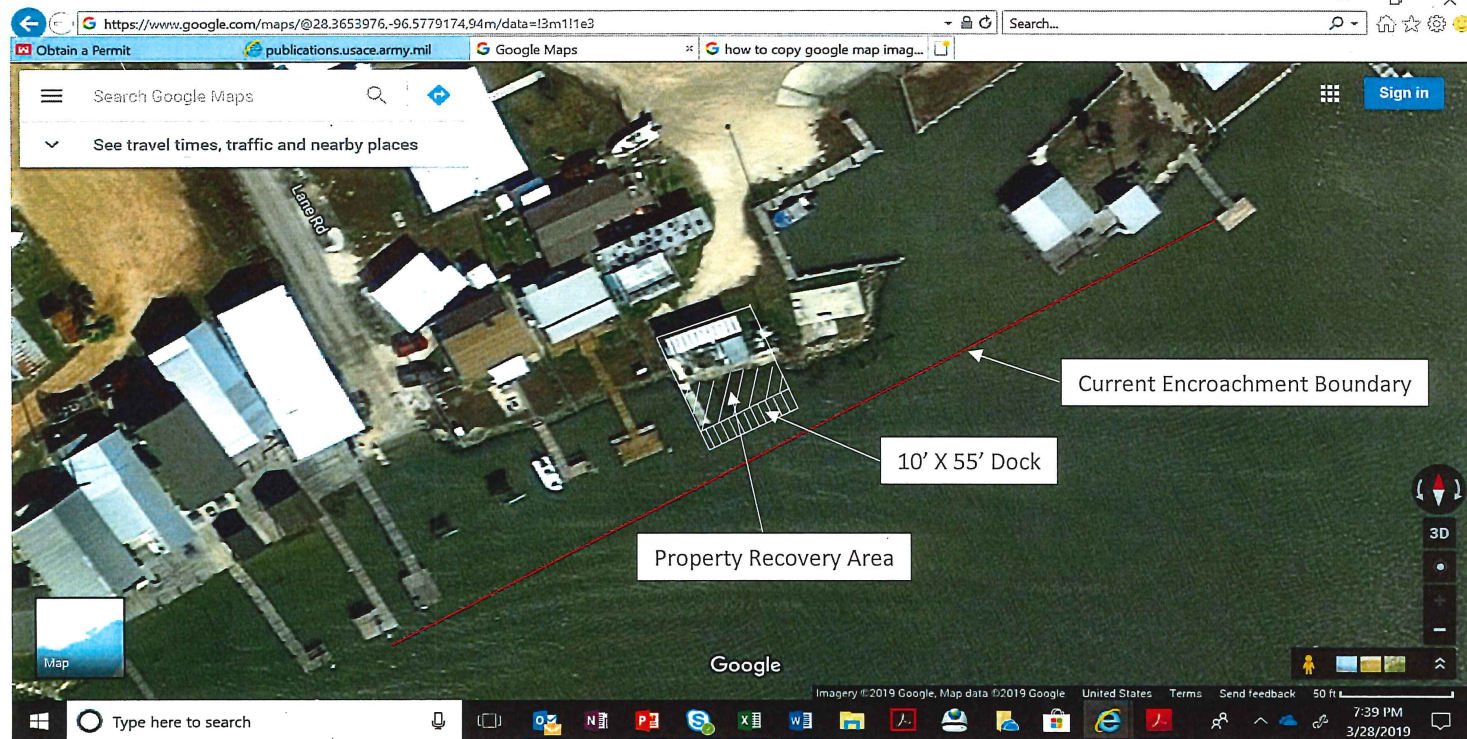


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SHEET 4 of 10

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SHEET 5 of 10

Friedrichs – Property Recovery and Shore Stabilization



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Calculations Chart

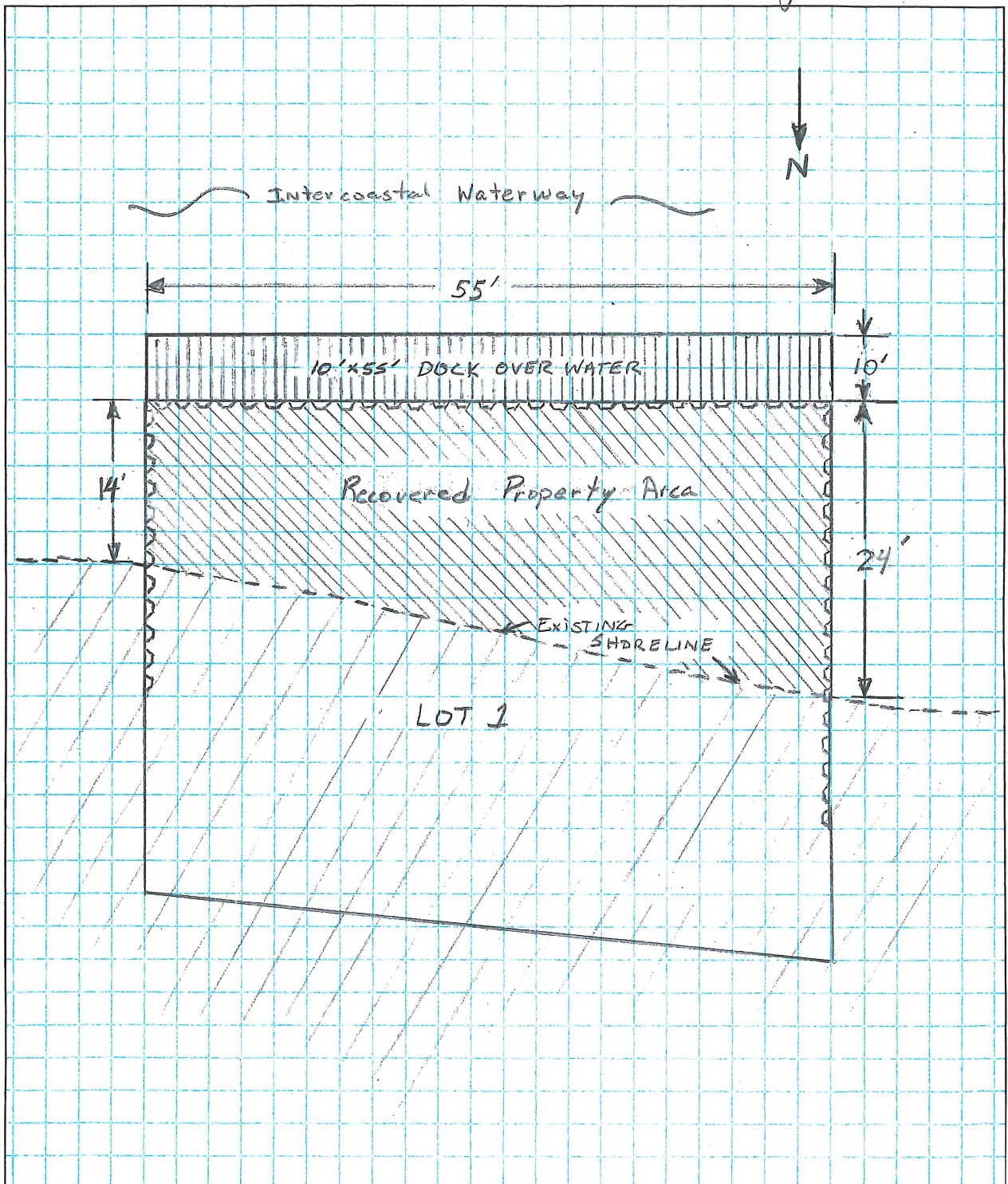
Sheet 6 of 10

File FRIEDRICHS

Date 4/5/19

By Dale Friedrichs

Subject Friedrichs - PROPERTY RECOVERY
PLAN VIEW



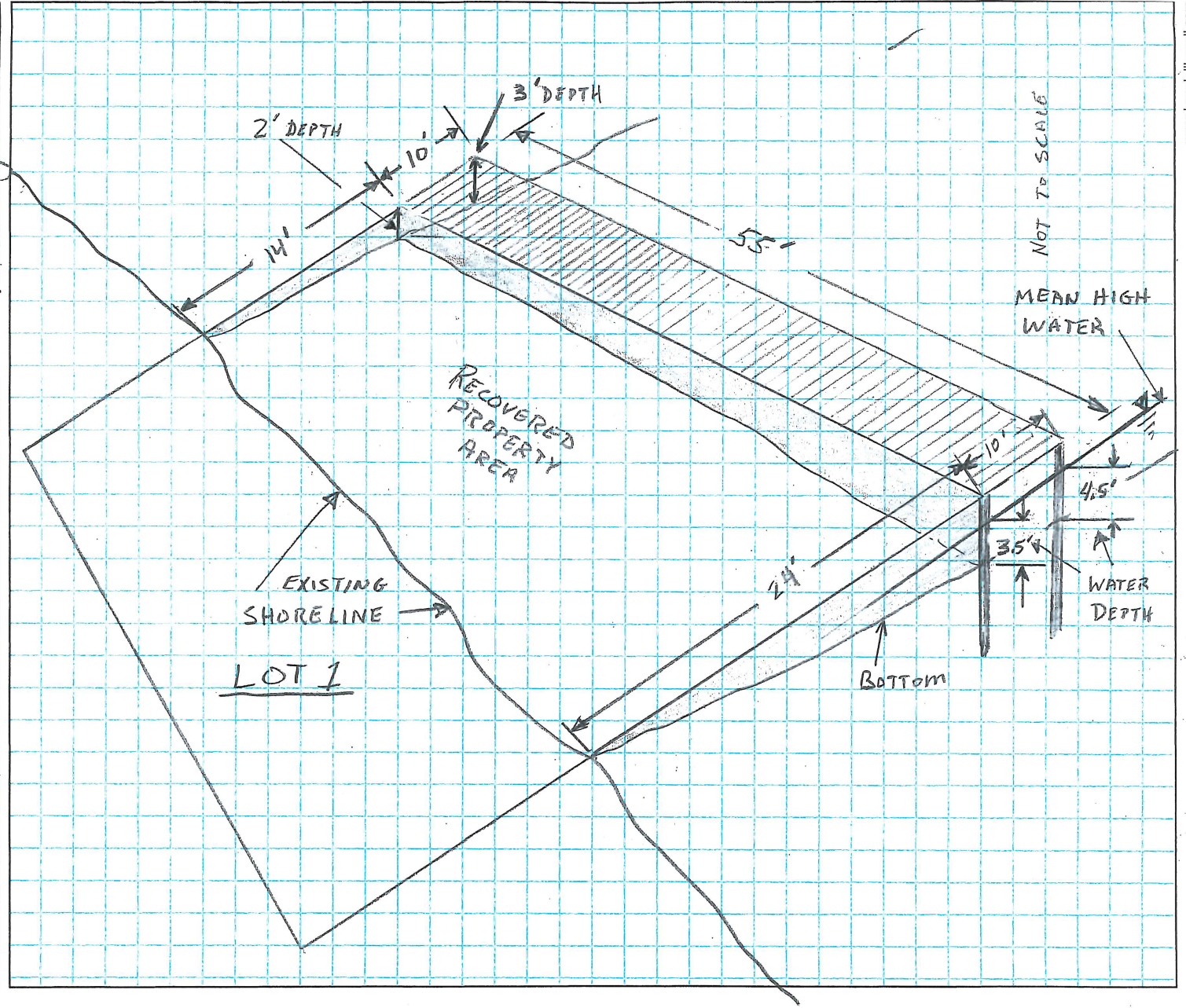
lyondellbasell
" " " "

APR 15 2019

Calculations Chart

Sheet 7 of 10
File FRIEDRICH
Date 4/5/19
By Dale Friedrichs

Subject Friedrichs - PROPERTY RECOVER
CROSS-SECTION OF RECOVERY AREA



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Calculations Chart

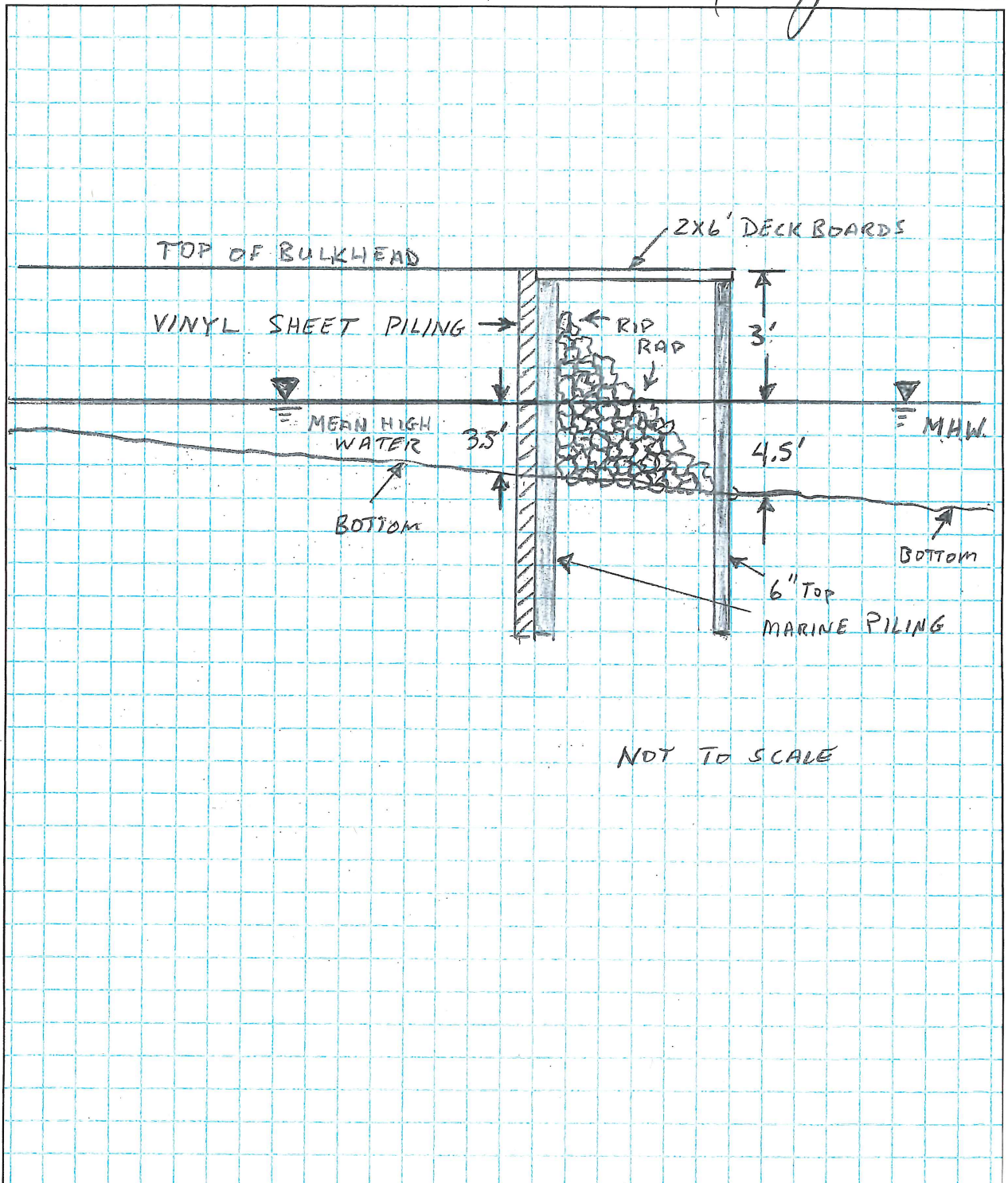
Sheet 8 of 10

File FRIEDRICHS

Date 4/5/19

By Dale Friedrichs

Subject FRIEDRICHS PROPERTY RECOVERY
CROSS-SECTION OF WEST SIDE





APR 15 2019

Calculations Chart

Subject Friedrichs PROPERTY RECOVERY
CALCULATION OF FILL VOLUME

Sheet 9 of 10
File FRIEDRICHS
Date 4/5/19
By Dale Friedrichs

Calculation of average volume of fill below the plane of mean high tide.

To calculate average volume of fill, use the average water depth at the outside piling and the average distance from the shoreline.

Use the equation:

$$\begin{aligned} & \frac{1}{2} * \text{Avg water depth} * \text{Avg distance from shoreline} \\ &= \frac{1}{2} * \left(\frac{3.5' + 2'}{2} \right) * \left(\frac{24' + 14'}{2} \right) * 1 \text{ ft wide} \\ &= \frac{1}{2} * 2.75' * 19' * 1' \\ &= 26.125 \text{ ft}^3 / \text{ft of shoreline} \\ &= 26.125 \text{ ft}^3 * \frac{1 \text{ yd}^3}{27 \text{ ft}^3} \\ &= 0.97 \text{ yd}^3 / \text{ft of shoreline} \end{aligned}$$

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APR 15 2019

Calculations Chart

Subject FRIEDRICHS PROPERTY RECOVERY
BULKHEAD AND DOCK DESIGN

Sheet 10 of 10
File FRIEDRICHS
Date 4/15/19
By Dale Friedrichs

