in codepen

HTML:

<canvas id="canvas" width="500" height="500" style="border:1px solid black;"></canvas>

CSS:

canvas {

display: block;

margin: 20px auto;

background-color: #f0f0f0;

}

JS:

const canvas = document.getElementById("canvas");

const ctx = canvas.getContext("2d");

const points = [];

const image = new Image();

image.src = "data:image/jpeg;base64,"; // Replace with your own river image URL

// Define scale factor (adjust based on image reference)

const pixelsPerMeter = 10; // Example: 10 pixels = 1 meter

// Load and draw the image on the canvas

image.onload = function () {

ctx.drawImage(image, 0, 0, canvas.width, canvas.height);

};

canvas.addEventListener("click", function (event) {

if (points.length < 4) {

const rect = canvas.getBoundingClientRect();

const x = event.clientX - rect.left;

const y = event.clientY - rect.top;

points.push({ x, y });

drawPoint(x, y);

}

if (points.length === 4) {

calculateDimensions();

}

});

function drawPoint(x, y) {

ctx.fillStyle = "red";

ctx.beginPath();

ctx.arc(x, y, 5, 0, 2 \* Math.PI);

ctx.fill();

}

function calculateDimensions() {

if (points.length < 4) return;

const pixelLength = Math.abs(points[1].x - points[0].x);

const pixelWidth = Math.abs(points[2].y - points[0].y);

// Convert pixels to meters

const length = (pixelLength / pixelsPerMeter).toFixed(2);

const width = (pixelWidth / pixelsPerMeter).toFixed(2);

ctx.font = "16px Arial";

ctx.fillStyle = "blue";

ctx.fillText(`Length: ${length}m`, points[0].x + 10, points[0].y - 10);

ctx.fillText(`Width: ${width}m`, points[2].x + 10, points[2].y - 10);

alert(`Length: ${length} meters, Width: ${width} meters`);

}}