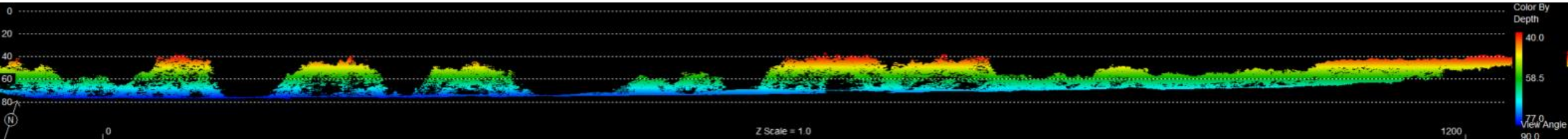


# Hydrographic Survey of North Padre Island Canals

Performed by Island Hydrographic, LLC.  
For Padre Island Property Owners Association



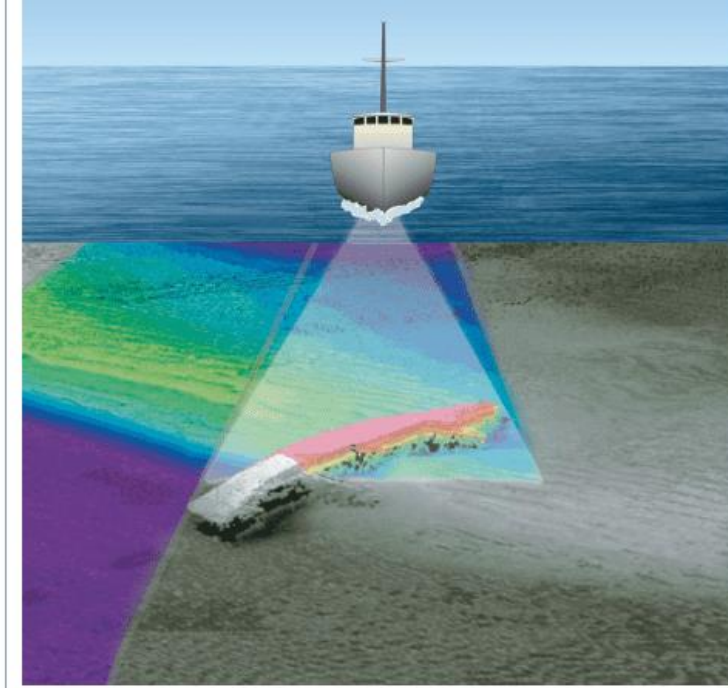
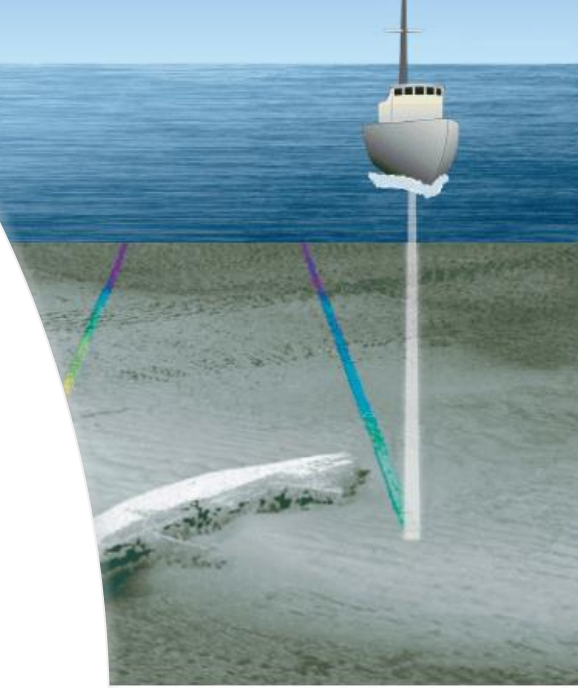
## What is a Hydrographic Survey?

Uses measurements to describe the physical features of the floor of a body of water.

Today, Sonar is the industry standard technology.

## What can we learn from one?

- Water depths
- Bottom topography
- Hazards to navigation
- Sediment transportation
- Volume calculations
- Infrastructure inspection
- Where the good fishing spots are.



Specifically for this project we were interested in achieving the following:

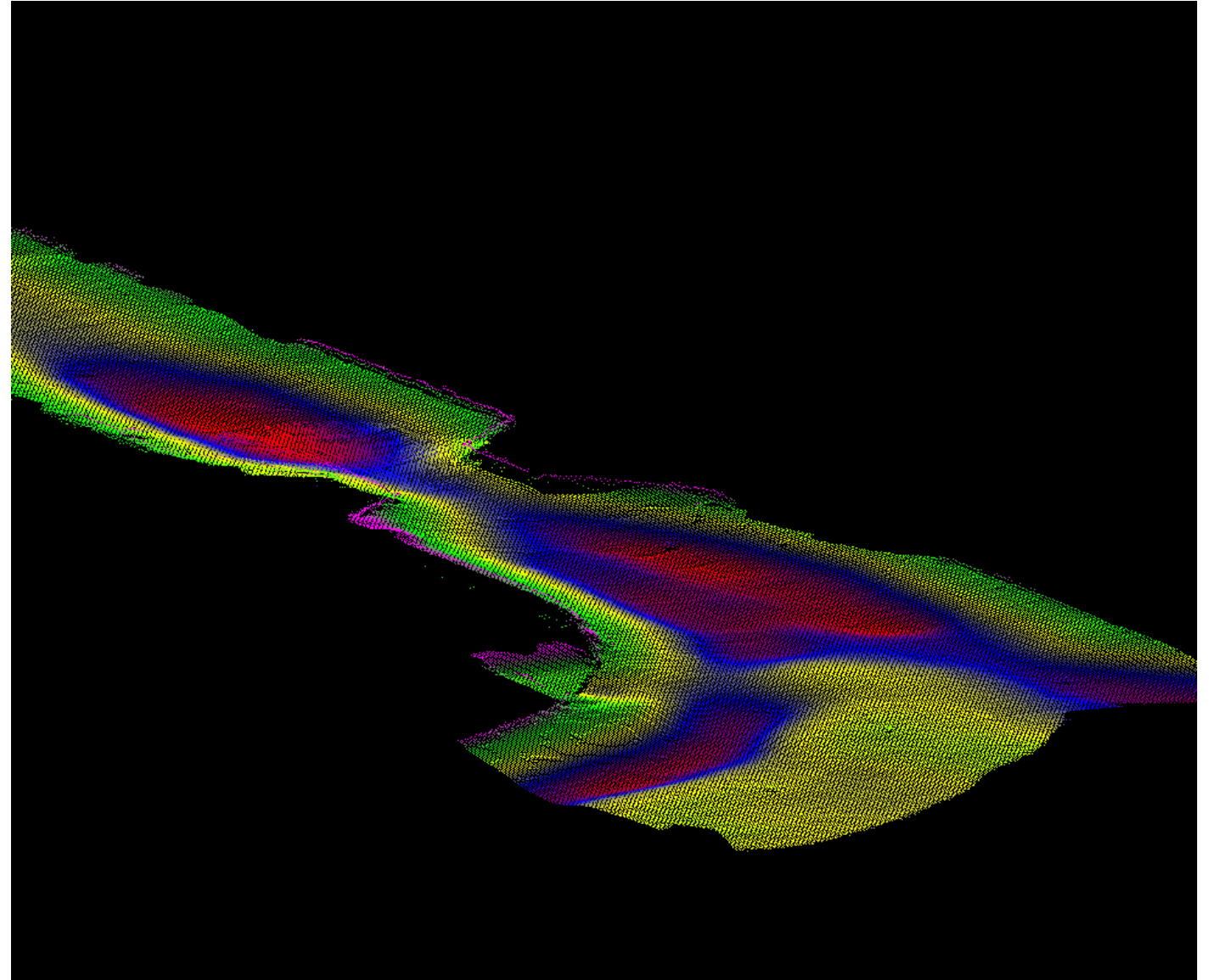
---

Primary Objectives:

- Obtain a base line of current water depths prior to the opening of the water exchange bridge.
- Identify areas of scour or shoaling in the immediate areas surrounding the Gypsy Street and Whitecap Street bridge footings.

Secondary Objectives:

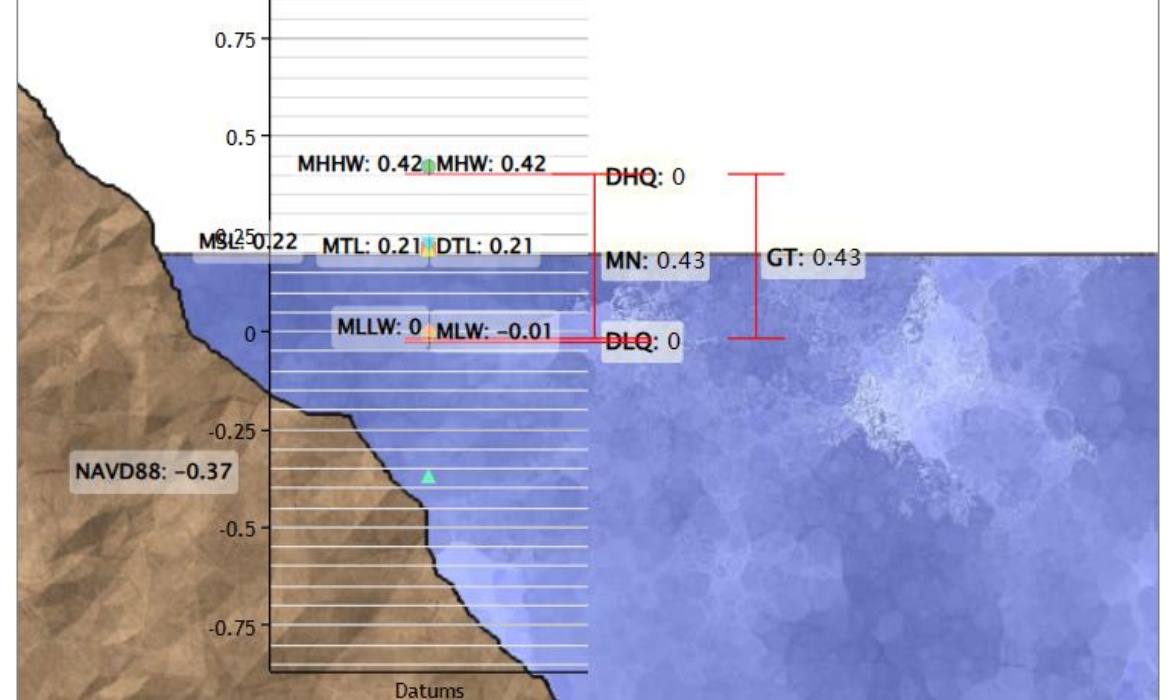
- Report any evidence of sediment transportation or physical damage along the bulk heads where possible.
- Report any debris or other hazards to navigation



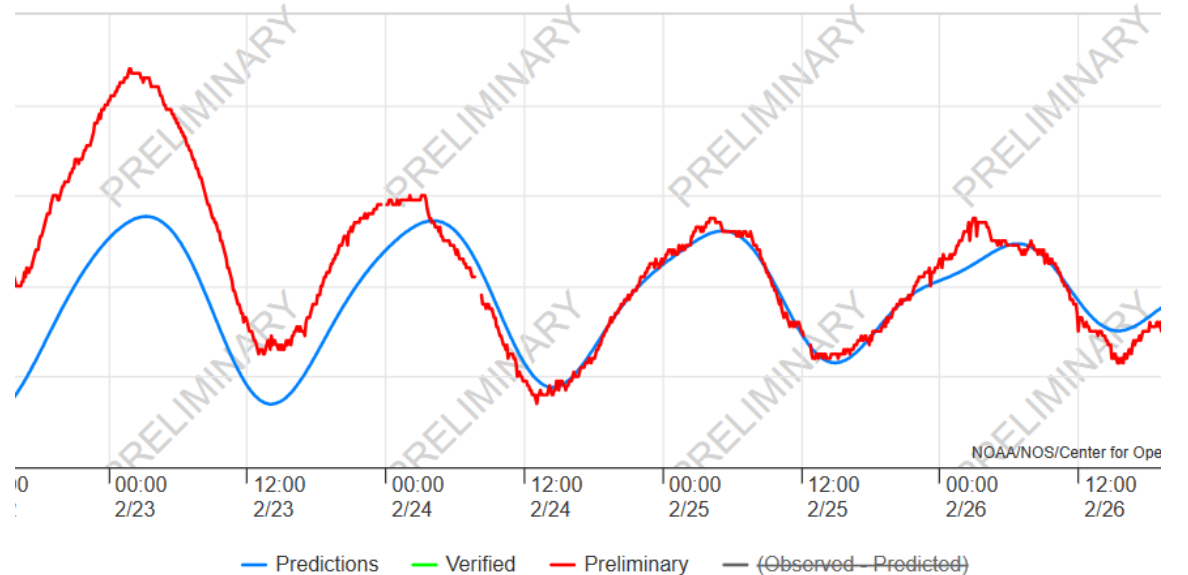
## How do we account for changing tides?

### Vertical Datums.

- A vertical datum is a surface that serves as a point of reference for elevation or water depth measurements.
- Two most common types: Geodetic and Tidal.

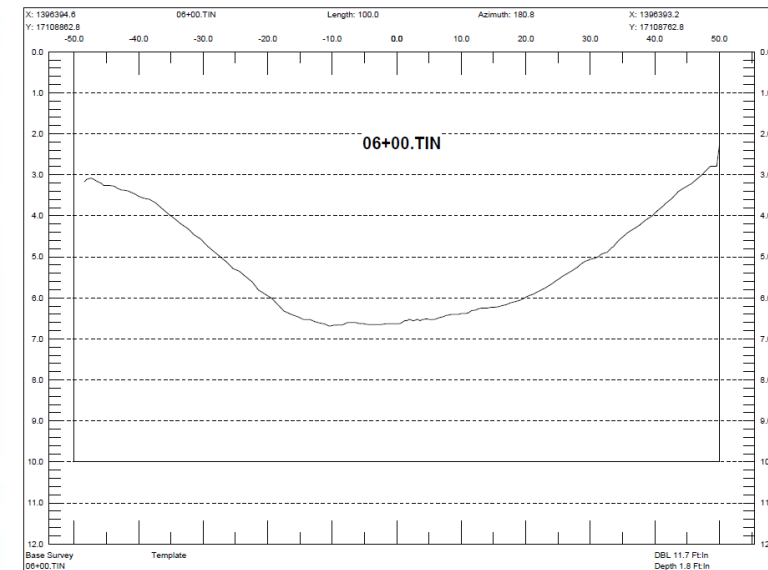
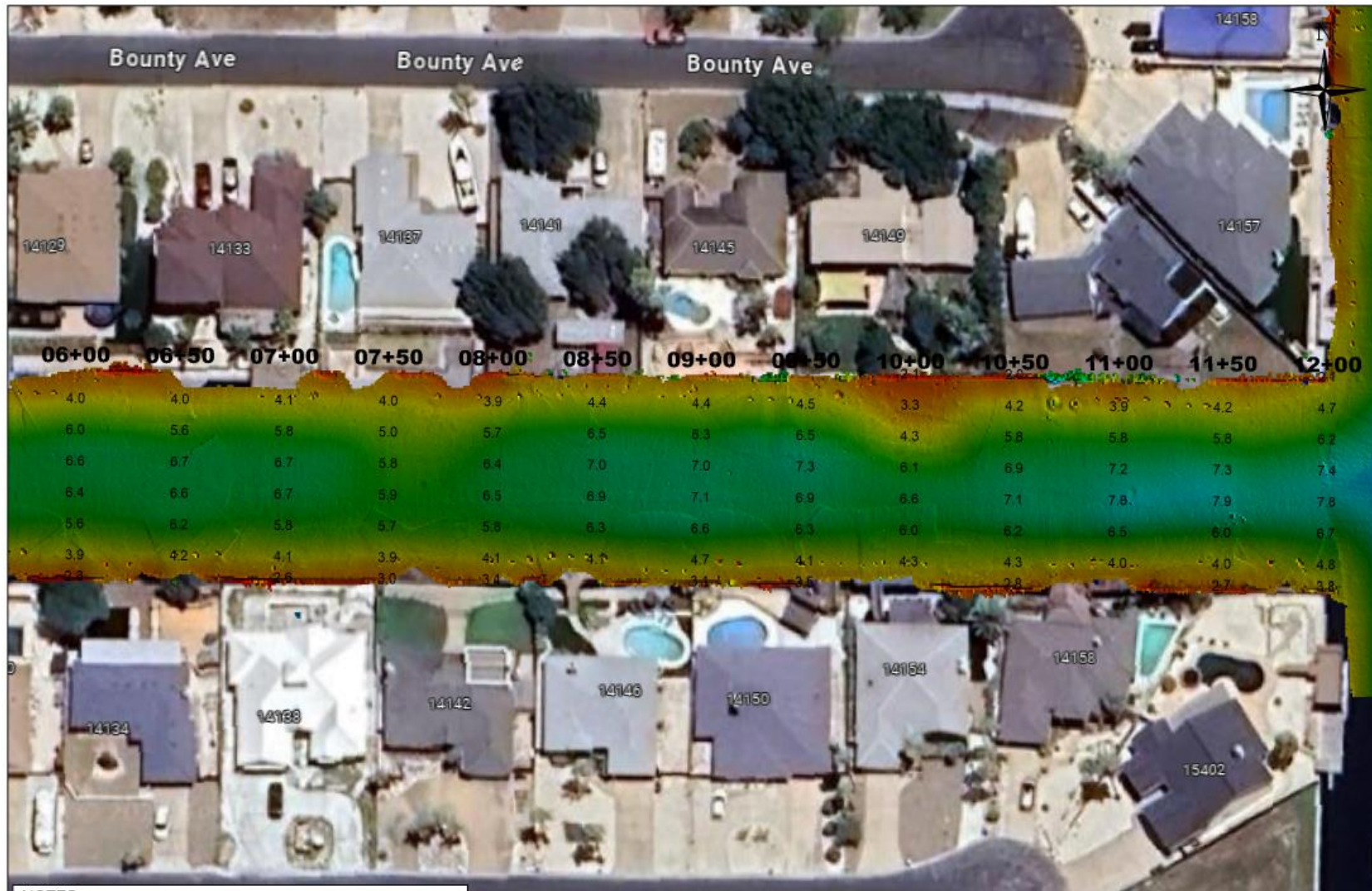


NOAA/NOS/CO-OPS  
Observed Water Levels at 8775792, Packery Channel TX  
From 2024/02/22 00:00 LST to 2024/02/27 23:59 LST



# Project Area

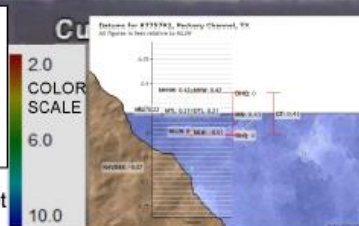




Baseline of current water depths.

NOTES:  
 1. HORIZONTAL: NAD83, USPCS 4205, USFT.  
 2. VERTICAL: NAVD88, GEOID18. FEET.  
 3. TO CONVERT DEPTHS TO MLLW SUBTRACT (SHOALER BY) 0.37FT.  
 4. WATER DEPTHS ARE CORRECT AT TIME OF SURVEY ONLY. DEPTH WILL CHANGE OVER TIME.

Scale: 1 Inch = 60.00 Feet



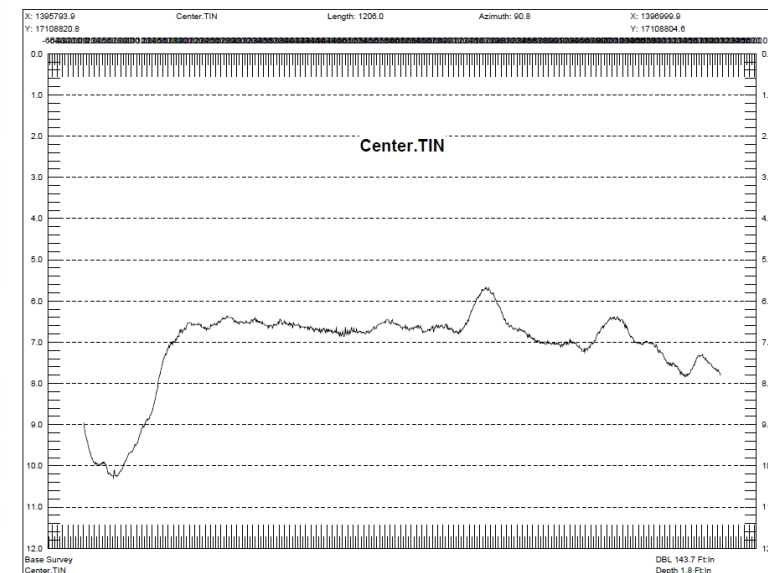
NORTH PADRE ISLAND HOME OWNERS ASSOCIATION

CANAL CONDITION SURVEY  
CUTLASS & BOUNTY CANAL

ISLAND HYDROGRAPHIC

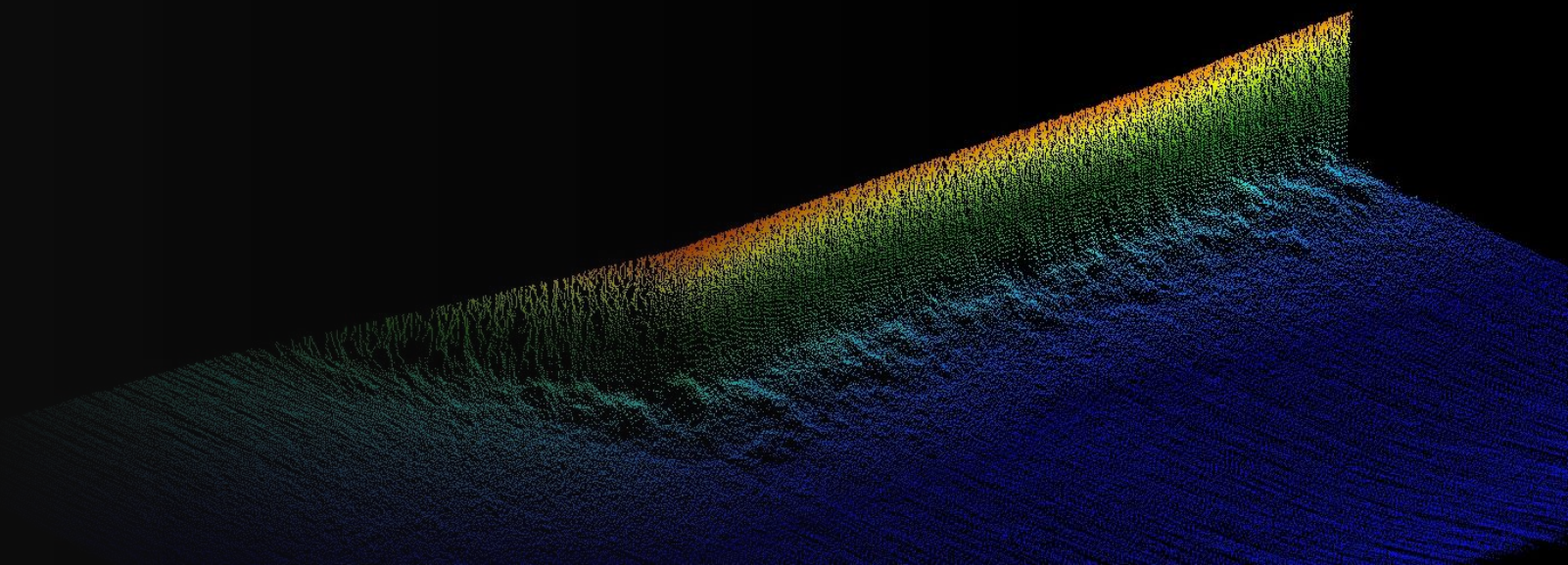
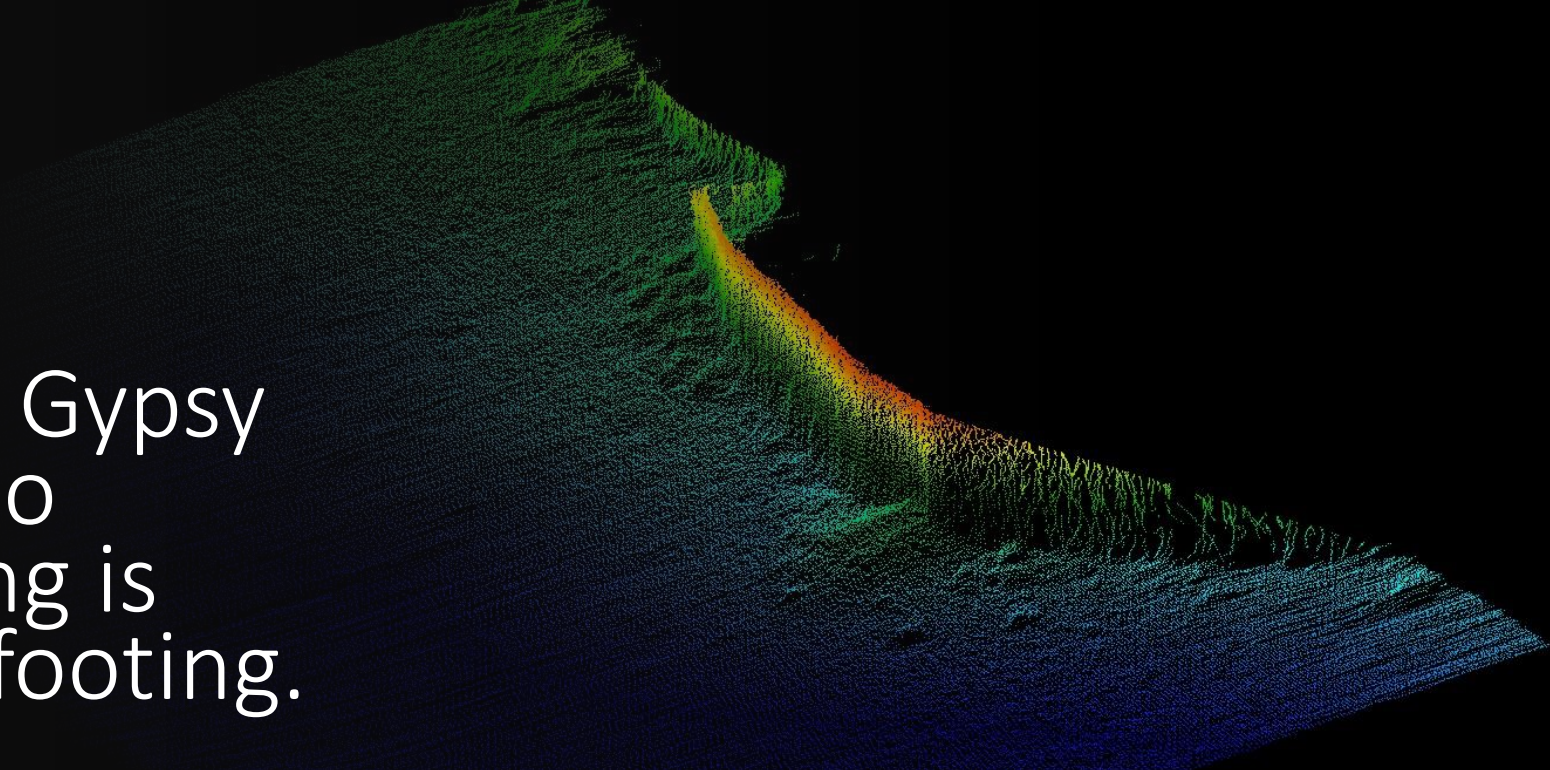
SURVEY DATES: FEB 10&11 2024

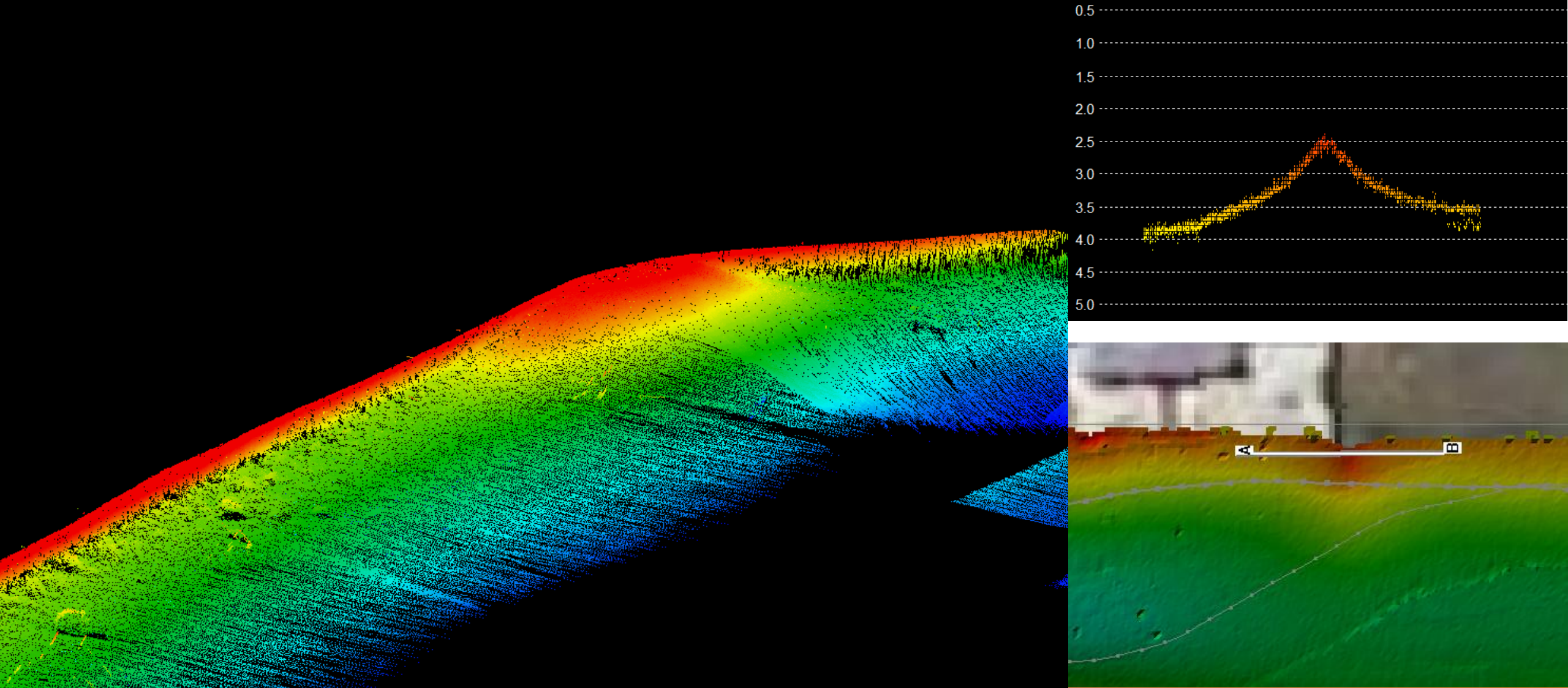
SHEET 2 of 2



Raw sonar view of Gypsy  
bridge footings. No  
observable scouring is  
present on either footing.

---

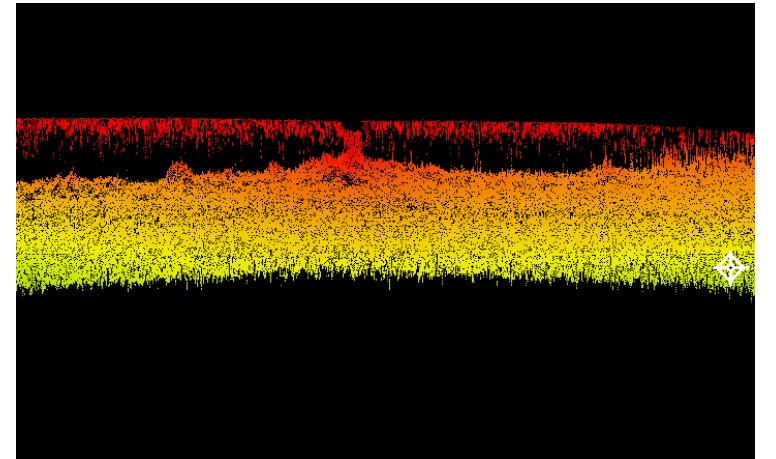
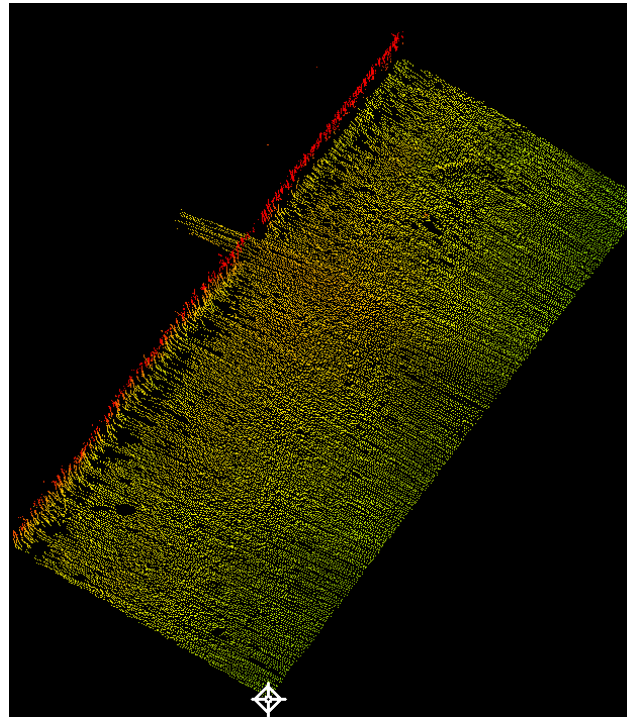
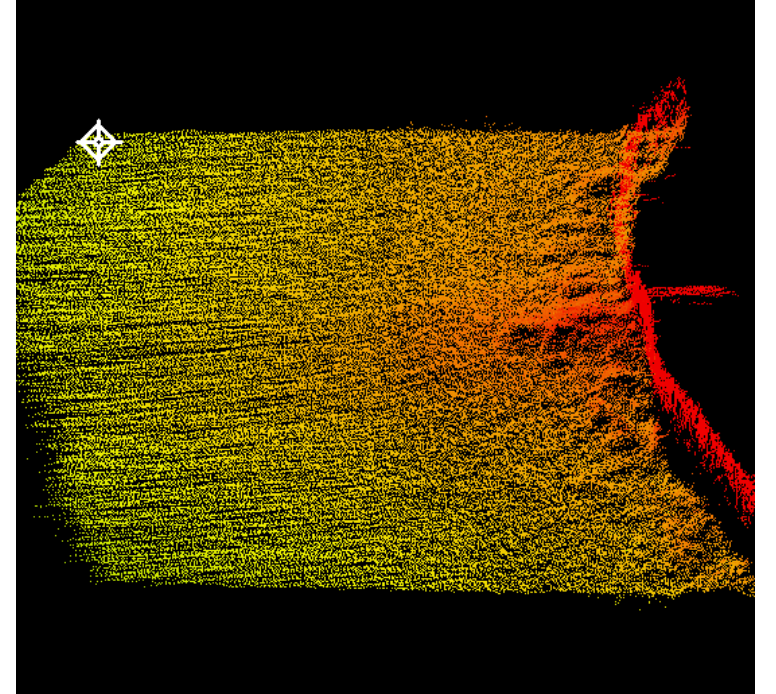
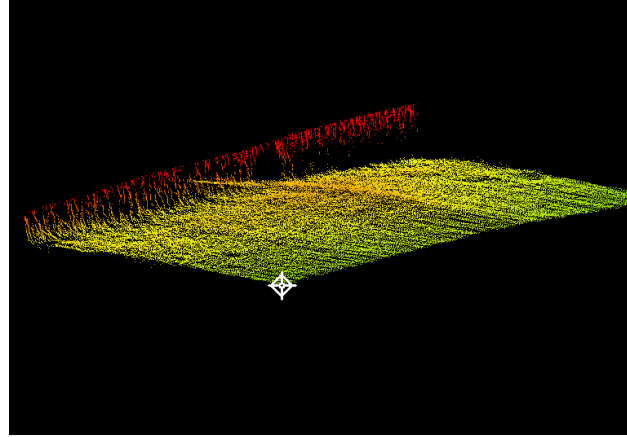




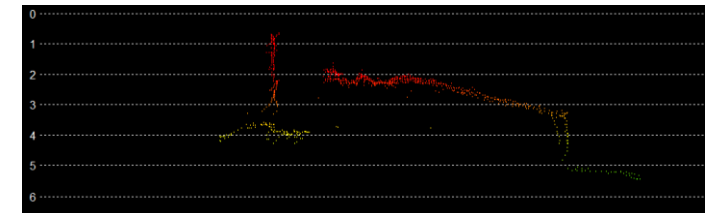
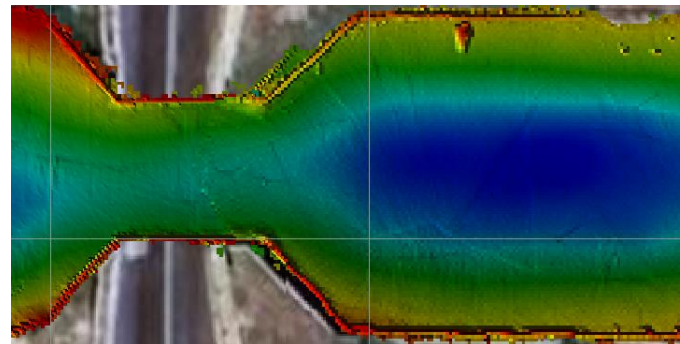
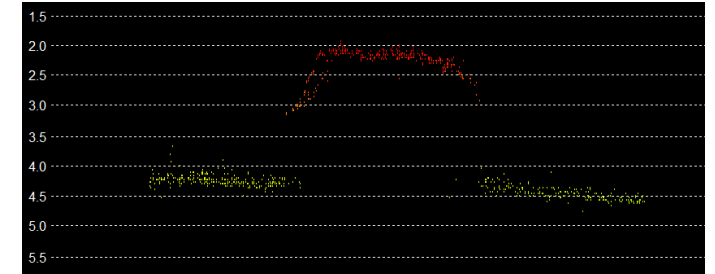
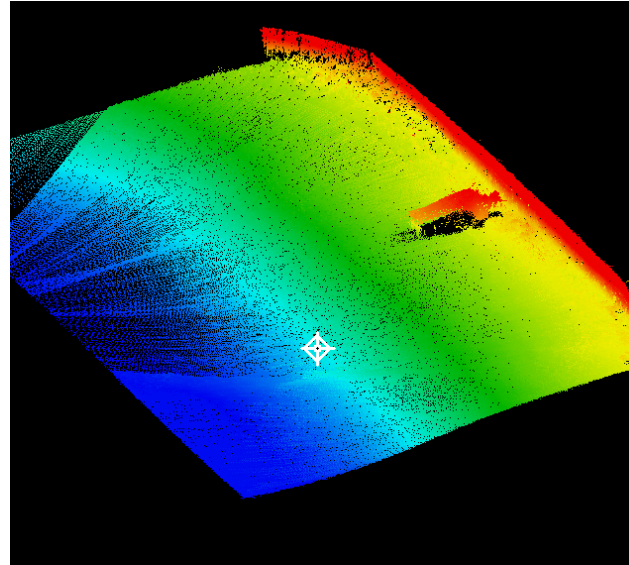
Sediment transportation into the canal system



Possible Bulkhead penetrations



- Example of found hazards
- Dimensions
- 9'x5'x2'



Questions?

