

STORMWATER: *IMPACTS AND IMPROVEMENTS*



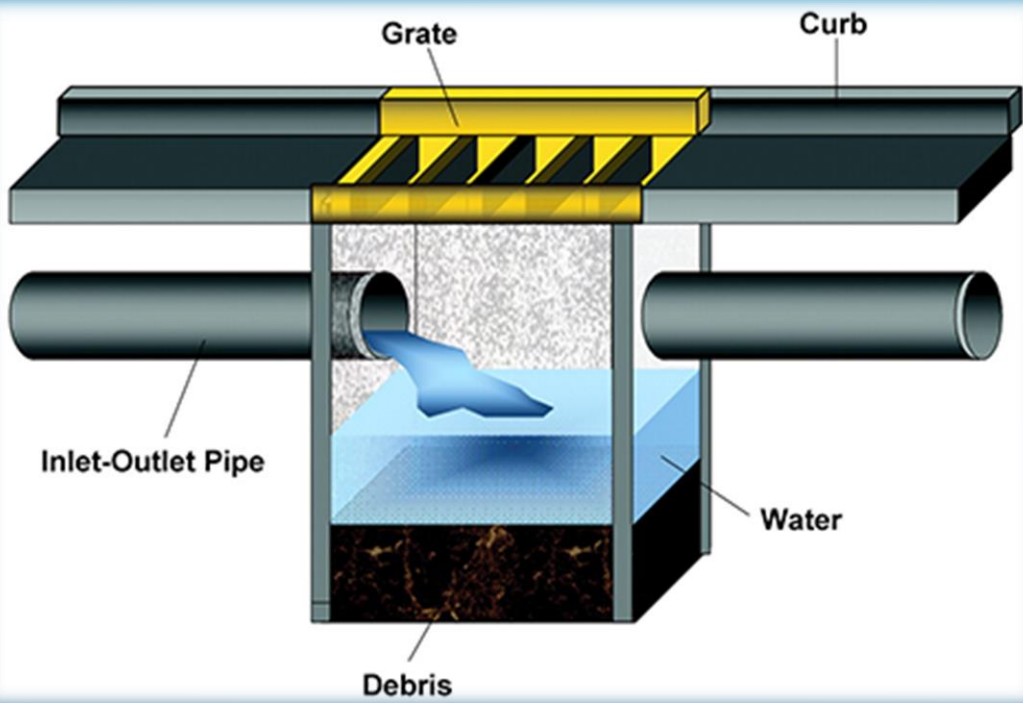
Emily Molden
Resource Ecologist,
Nantucket Land Council



- ▶ Stormwater runoff occurs when precipitation flows over the ground.
- ▶ Impervious surfaces such as roofs, roads, driveways, parking lots and sidewalks prevent stormwater from naturally soaking into the ground.



WHAT IS STORMWATER RUNOFF?

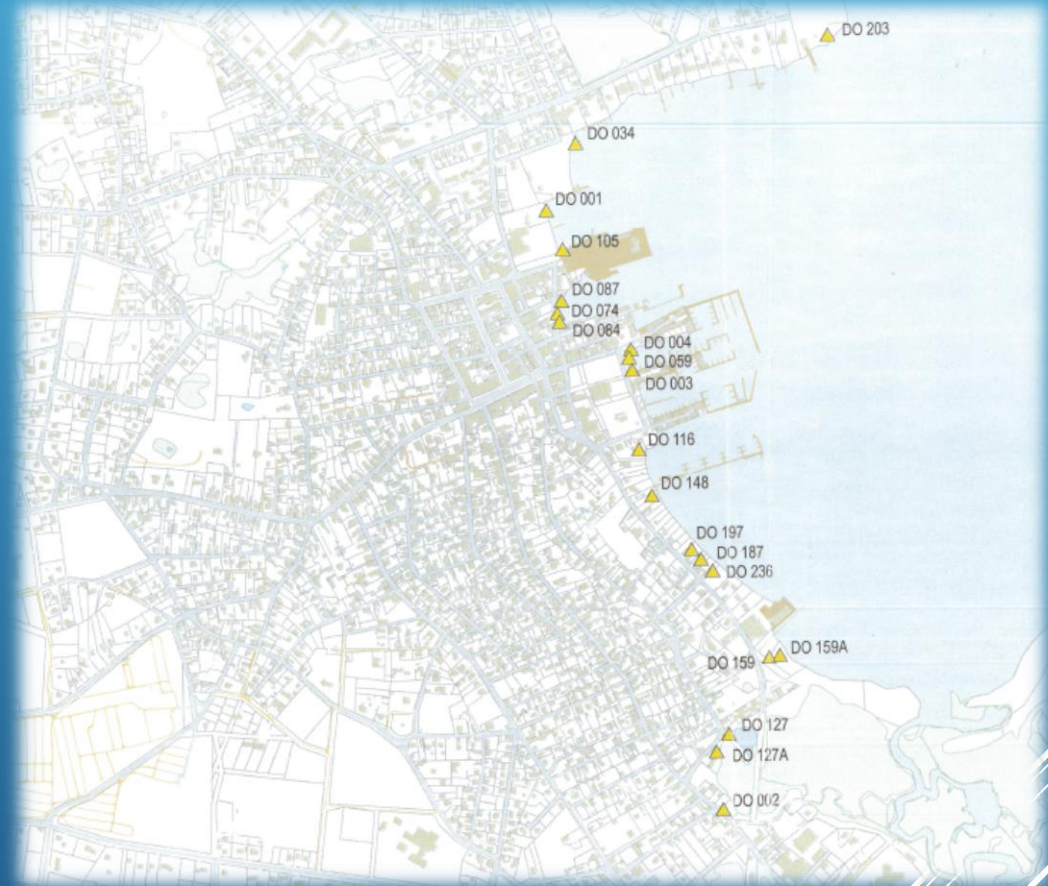


Nantucket
Outfall Pipes



**WHERE DOES STORMWATER
RUNOFF GO?**

- ▶ Approximately 20 outfall pipes discharge stormwater into Nantucket Harbor.
- ▶ Stormwater infrastructure is antiquated and insufficient for increased development.
- ▶ Stormwater treatment focuses on removal of solids without addressing other pollutants/nutrients.

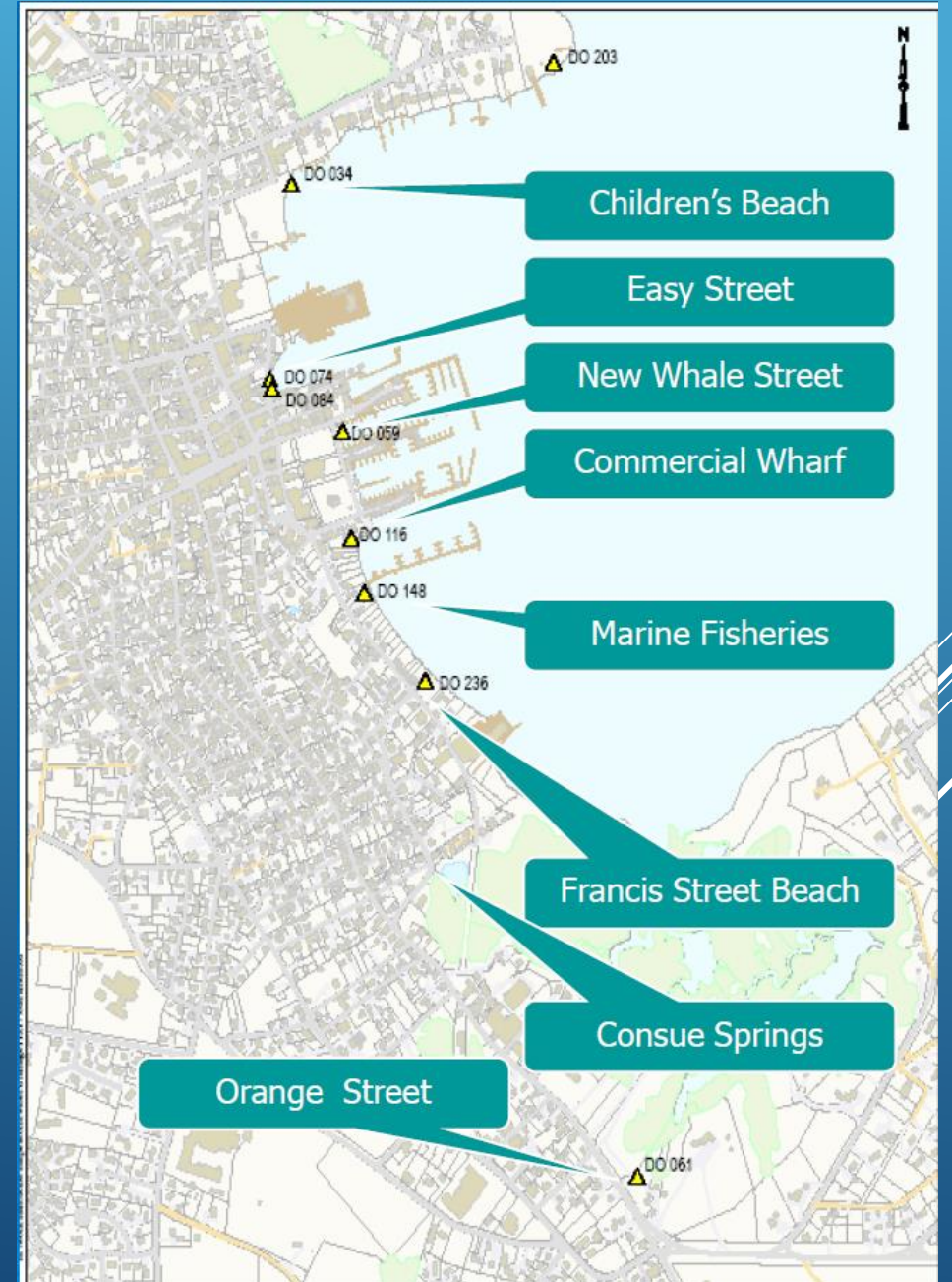


TOWN OF NANTUCKET STORMWATER SYSTEM

► Town of Nantucket
Stormwater Improvement
Program:

AECOM completed a study and made
recommendations to the BOS in 2012.

INFRASTRUCTURE IMPROVEMENTS



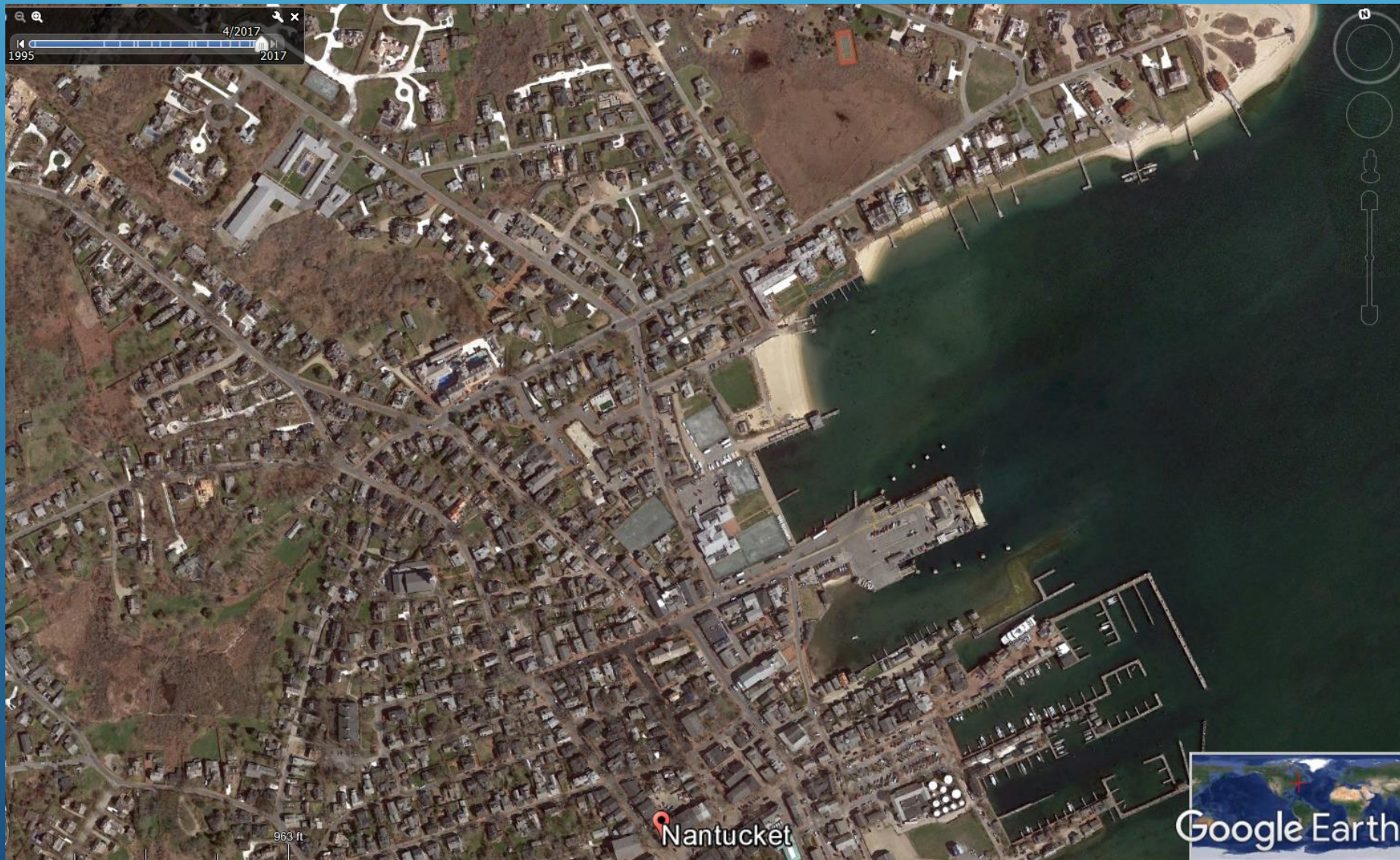


OUTFALLS SELECTED FOR SAMPLING

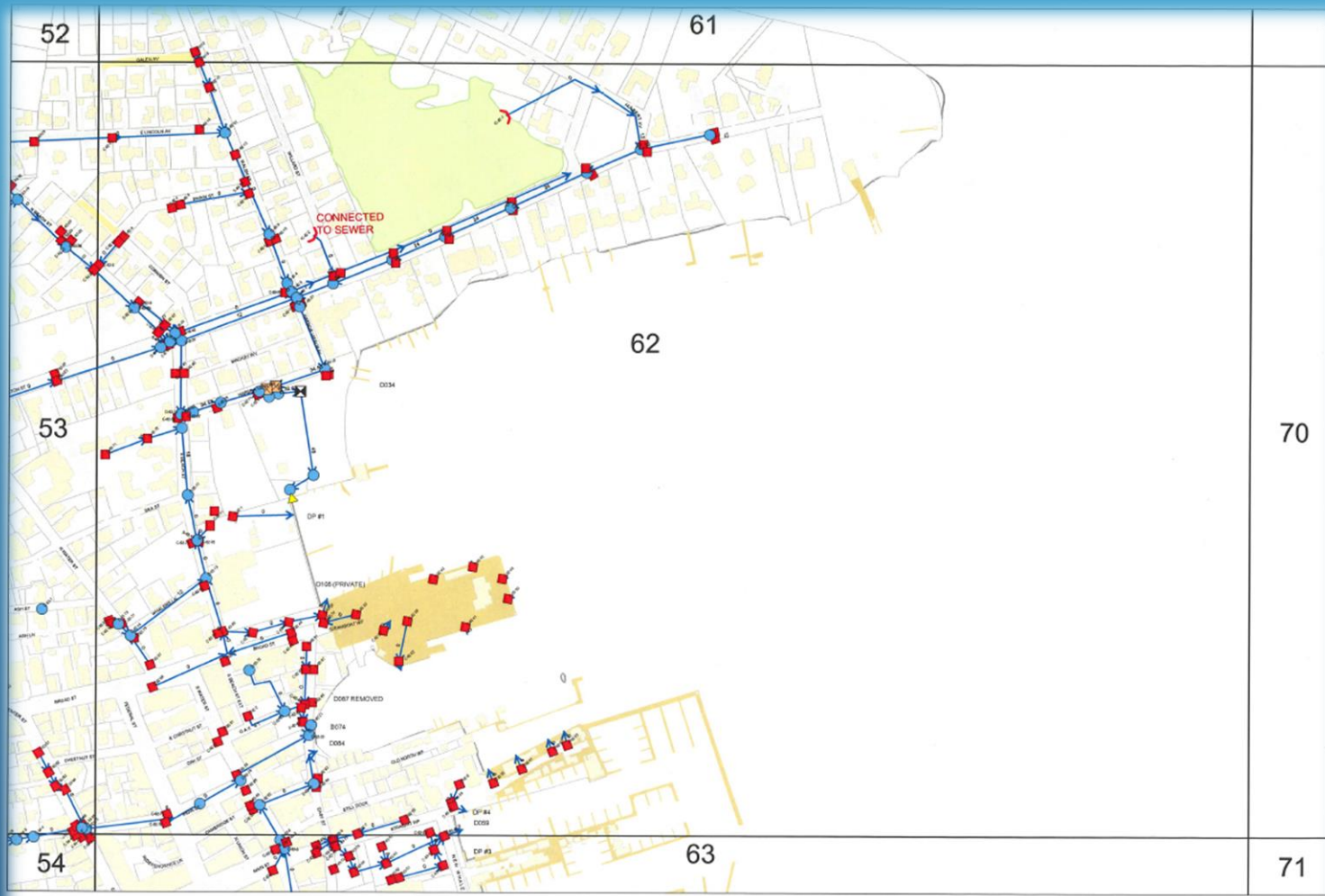
- ▶ CHILDREN'S BEACH
- ▶ EASY STREET
- ▶ TOWN PIER
(WASHINGTON STREET)

NANTUCKET LAND COUNCIL AND TON STORMWATER SAMPLING PROGRAM





CHILDREN'S BEACH



AUGUST 2012



DEPARTMENT OF PUBLIC WORKS
188 MADAKET ROAD
NANTUCKET, MASSACHUSETTS

LEGEND

- Drain Pipe
- Overflow
- Tide Gate
- BMP
- Leaching Catch Basin
- Catch Basin
- Inlet/Outlet
- Drain Manhole
- Infiltrator
- Ocean Cutoff

- Open Water
- Wetland
- Dock
- Building Footprint
- Parcel Boundary
- Unpaved Road
- Paved Road

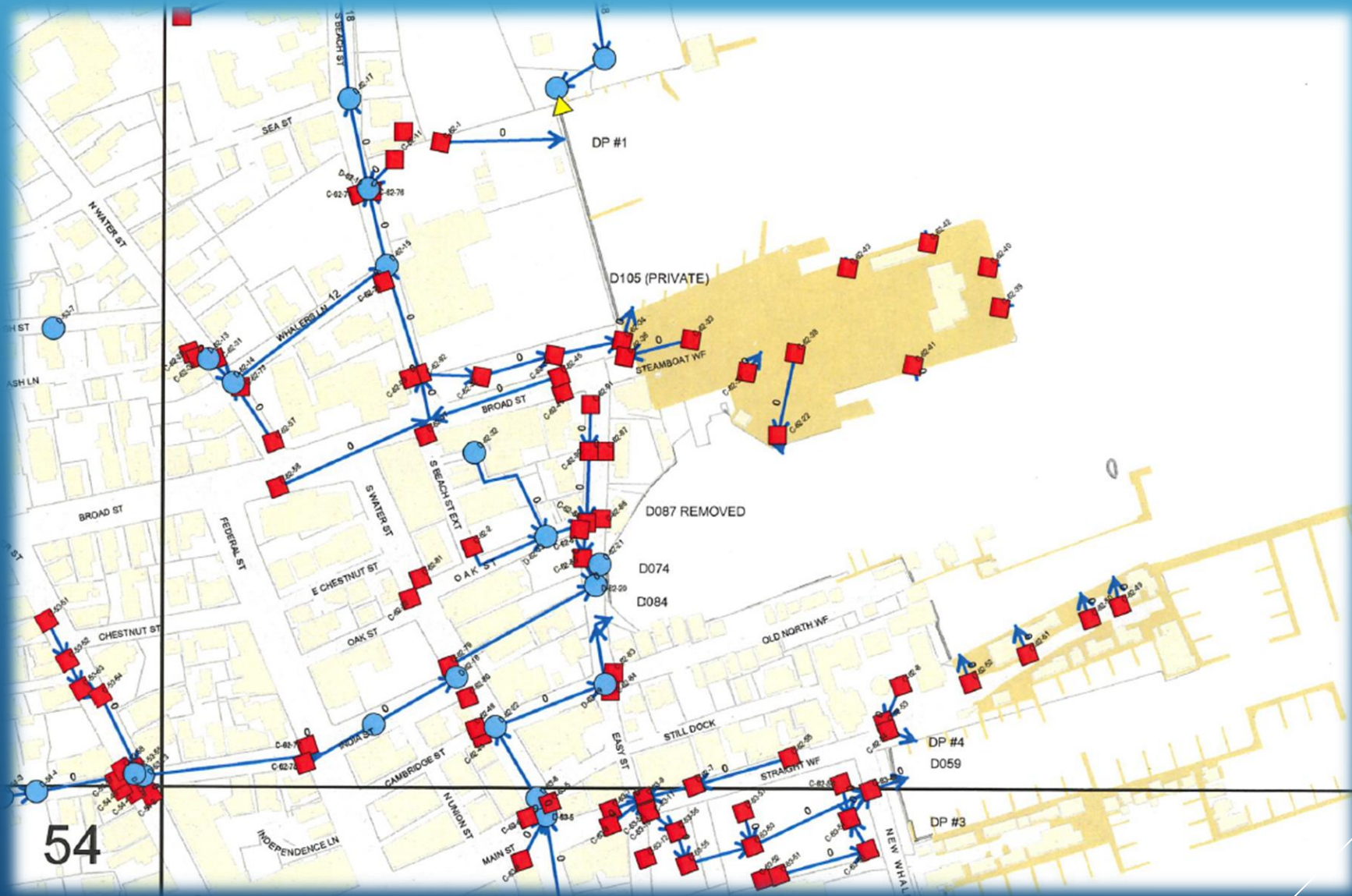


TILE 62
STORMWATER
INFRASTRUCTURE

CHILDREN'S BEACH STORMWATER OUTFALL



EASY STREET



EASY STREET



TOWN PIER

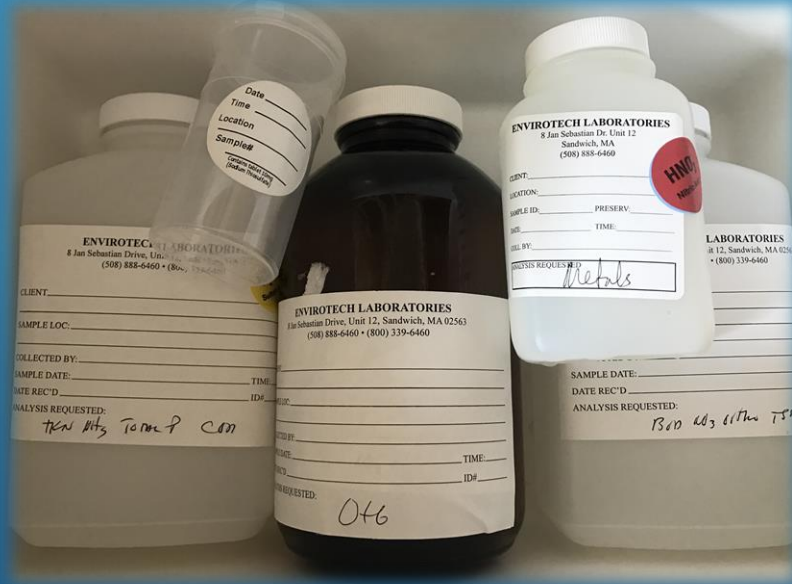


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TOWN PIER

1) Collect Stormwater Sample

2) Calculate Rate of Flow



**SAMPLING FLOW TO CALCULATE
CONTAMINANT LOAD**

Parameters

Fecal Coliform

Biological Oxygen Demand (BOD)

Chemical Oxygen Demand (COD)

Copper

Iron

Lead

Zinc

Nitrate-N

Organic-N

TKN

Ammonia-N

Oil & Grease

Total Phosphorus

Ortho Phosphorus

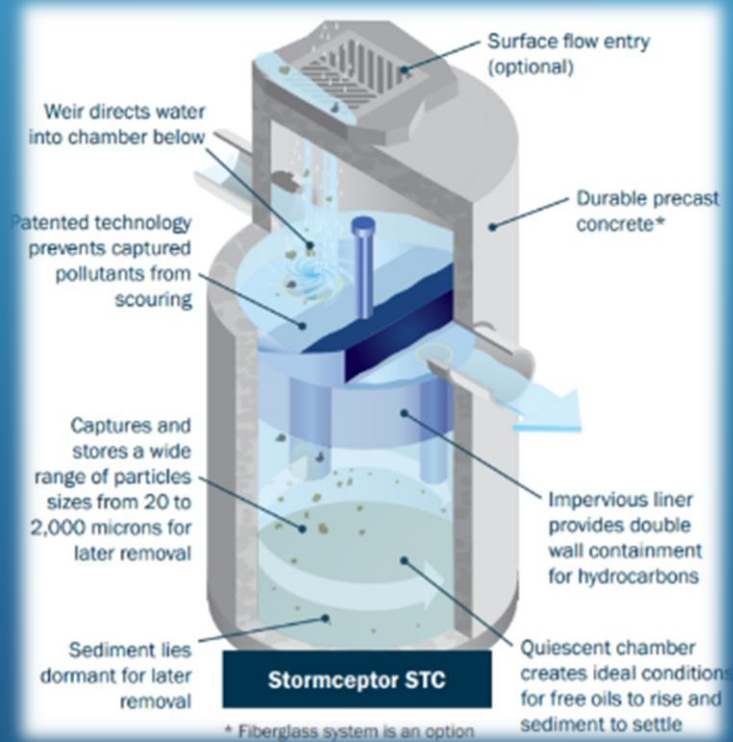
TSS Total Suspended Solids

Sulfate

WHAT ARE WE TESTING FOR?



Improved infrastructure



Bioremediation



**HOW CAN NANTUCKET REDUCE
STORMWATER POLLUTION INTO THE HARBOR?
USING BEST MANAGEMENT PRACTICES (BMP)**



TOWN PIER / TOWN PARKING LOT INFRASTRUCTURE IMPROVEMENTS



QUESTIONS?

