

# Town of Sharon: Artificial Turf Moratorium

Let's Try Professional Organic Grass



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25 year NIH-Funded Researcher  
Mechanisms of Chronic Disease

# Artificial Turf Hazards

- Long-term health effects for our student athletes
- Threat to our natural resources:  
Lake, Wetlands, Drinking Water
- Plastic Pollution

# Threat to Athletes: Toxins

flame retardants plasticizers

biocides

UV inhibitors colorants

herbicides

## PFAS



plastic

# PFAS are Toxic

- A class of >4,700 PolyFluoroAlkyL Substances
- Used since 1950s for grease & water resistance



- PFAS are toxic
- “Forever chemicals”
- Accumulate in our bodies / not easily excreted



# Low level PFAS exposure: potential link to multiple health issues

- Impacts growth, learning & behavior of infants & children
- Disrupts hormones
- Decreases fertility
- Increases cholesterol levels
- Suppresses immune responses
- Increases the risk of certain cancers



National Institute of Environmental Health Sciences  
*Your Environment. Your Health.*

Agency for Toxic Substances and Disease Registry

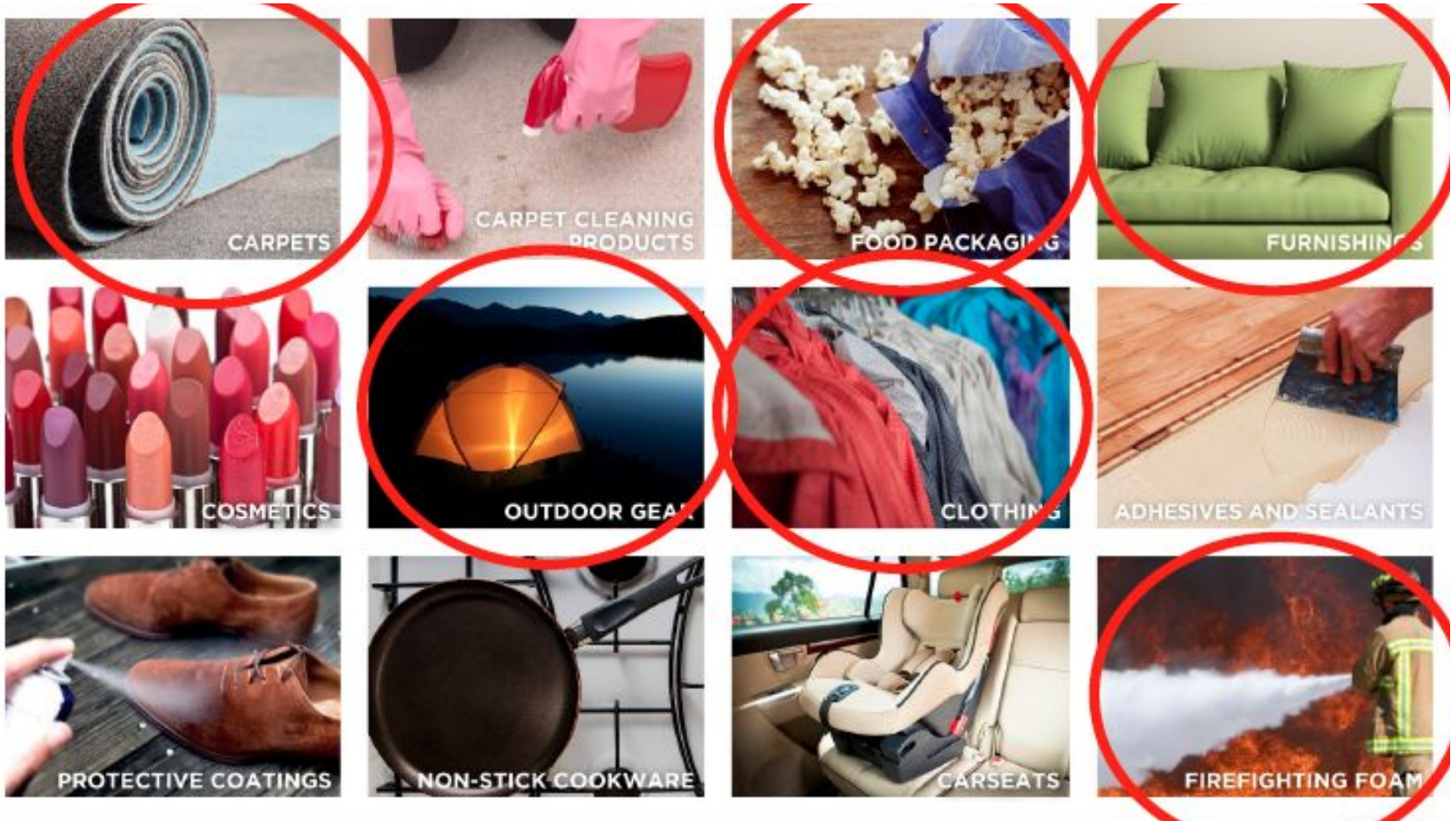
Division of Community Health Investigations





# Industries remove PFAS from product lines

Home Depot, Lowe's, IKEA, Cardi's, Shaw Industries



# Threat to Lake Massapoag

Ditch drains  
directly  
from field to  
beach

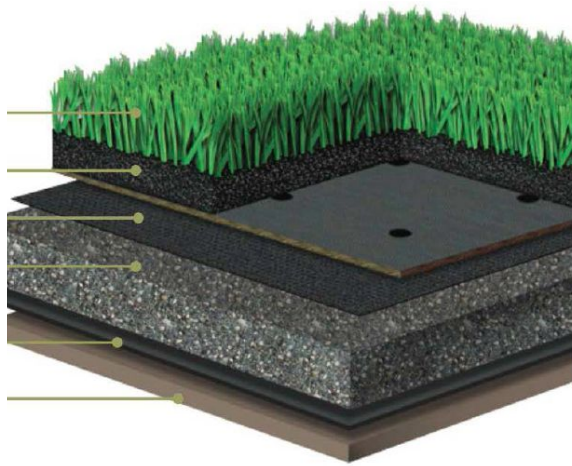
PFAS are  
“forever  
chemicals”





# Wetland Impact

PFAS\* & other toxins



polyethylene  
polyurethane  
polypropylene

\*“Forever”

↓  
Microplastics \*

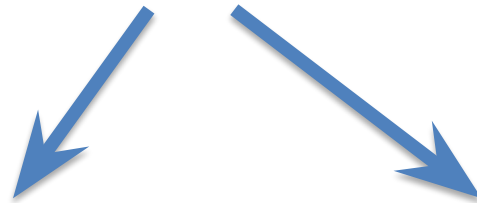


# Plastic Grass = Local Plastic Pollution & Plastic Waste

50 year SHS lifespan  
8 year turf warranty



**6 plastic carpets = 120 tons polyethylene**



**Local**

**15 tons polyethylene bits  
& microplastic  
= 2.5 million plastic bags**

**Landfill**

**105 tons polyethylene**

**No US facilities recycle turf**

# Drinking Water Threat

MA DEP will soon regulate PFAS in drinking water at:

20 parts per **trillion** (sum of 6 PFAS)

Other well-known toxins are regulated at parts per **million!**

# Current PFAS Testing is Extremely Limited

- PFAS are proprietary chemicals
- Testing is available for 36 older PFAS, but not for 4,700 newer PFAS

David Teter: 29 older PFAS were not detected in 3 plastic turf samples from FieldTurf & SprintTurf (who claim their products don't contain PFAS)

# PFAS are used to make artificial turf

From: Susan Farris  
Date: Wed, Oct 9, 2019



“...commonly used by synthetic turf manufacturers as a non-stick agent in the manufacturing ...We are exploring alternatives ... have not yet identified a substitute”

Teter: Shaw uses PVDF, a long chain polymeric PFAS, which is inert and non-toxic like Teflon.

But:

Toxics Use Reduction Institute warns long chain polymeric PFAS can degrade to smaller toxic PFAS chemicals.



# Teter Report Limitations

- Total Fluorine levels should have been measured (FOIA documents show SprintTurf contains 430 ppm fluorine)
- Turf aged in the field by UV light should have been analyzed

# Artificial Turf Moratorium

- Three years
- All Town-owned Land
- Exempt synthetic turf:
  - Made of plant-based bioplastic
  - Biodegradable or compostable
  - Certified-PFAS free

# Disclosure of Toxins

Residents need full disclosure of toxins in artificial turf:

- 4,700 newer PFAS
- Fluoropolymers which generate small PFAS
- Polybrominated flame retardants
- Phthalates (Teter report included a high value for DEHP which he described as a testing error)

# Initial Installation/Renovation Cost Comparison

- \$1.1 million – SHS artificial turf field installation

Sports Turf Specialties\* Quote (Wrentham, MA)

- \$200 K – SHS renovate base, lay down new sod
- \$620 K – Renovate 10 additional fields (1 each: SHS, SMS & East Elem.; 2 Gavins Pond; 5 E. Foxboro)

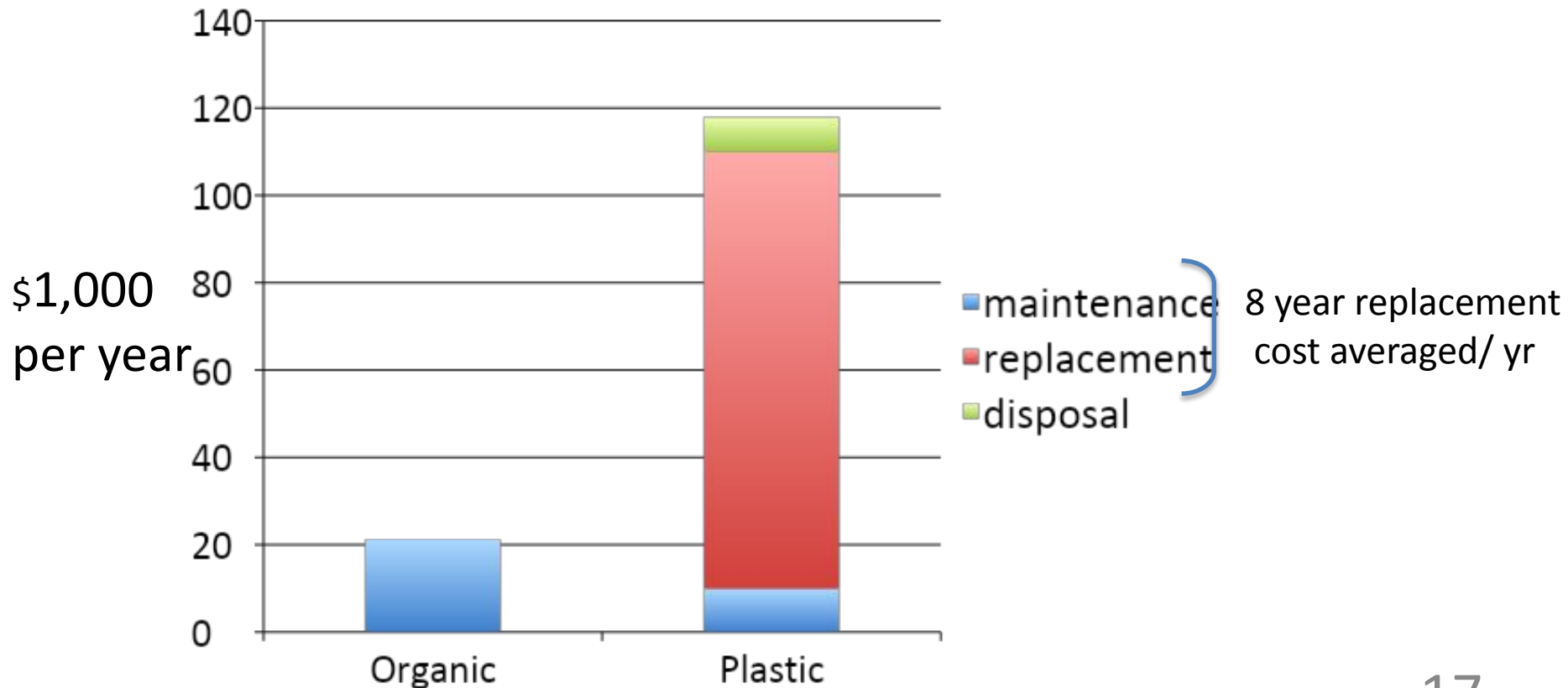
\* Portfolio:

Fenway Park, Gillette FIFA Futbol, Dedham Avery Field, Boston College, Milton Academy, Concord Academy, Washington Redskins, Johnson & Wales, Plainville Soccer, Canton Little League, Manchester NH Fisher Cats      [www.sportsturfspecialties.com](http://www.sportsturfspecialties.com)



# Annual Maintenance Cost Comparison

## Organic vs. Plastic Grass at SHS



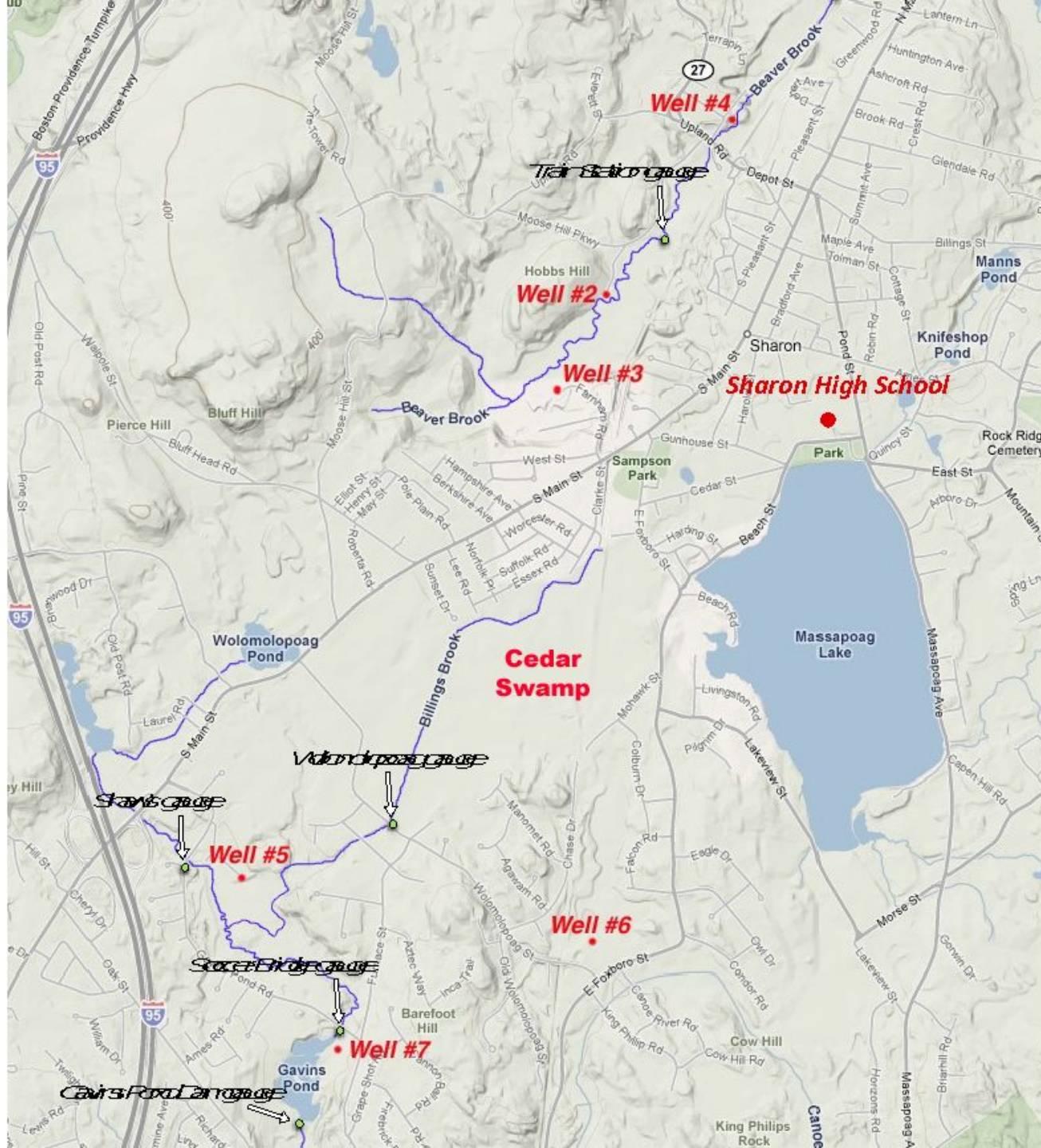
Please Support our Three Year  
Artificial Turf Moratorium

Let's Explore Organic Grass



Sustainable  
Sharon  
Coalition

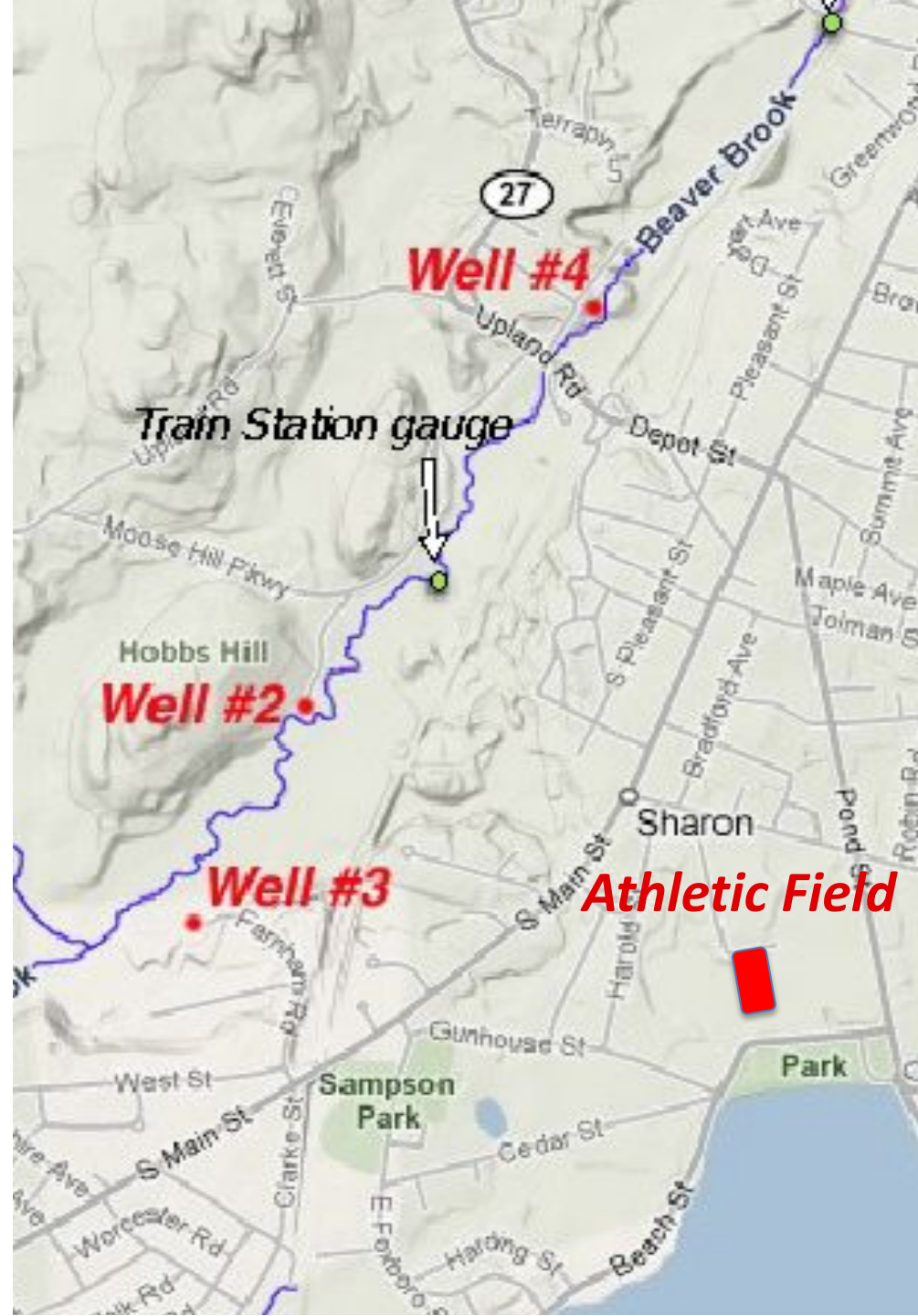






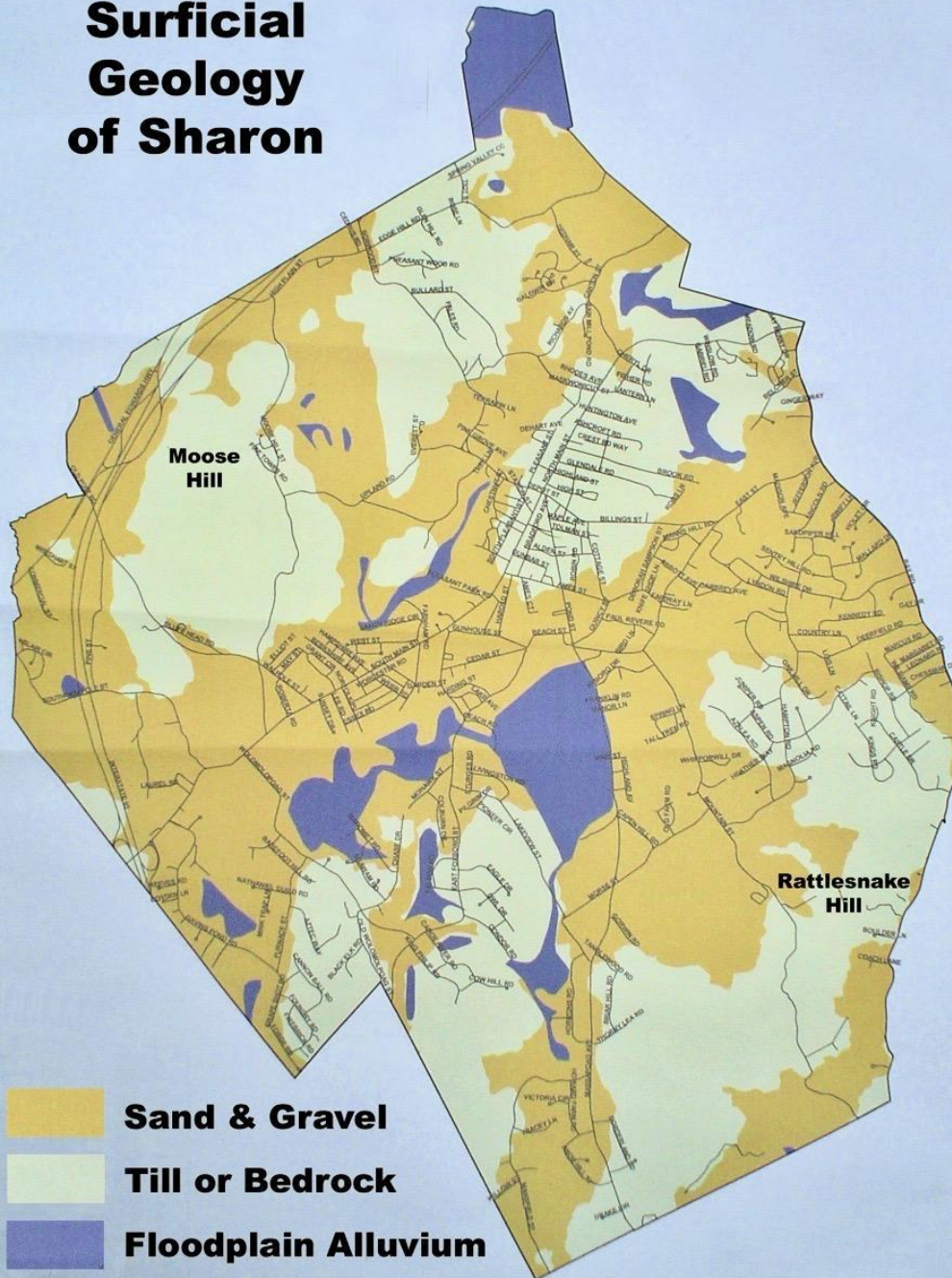
Wells 2, 3 and 4 provide 60% of Sharon's drinking water.

They are located along Beaver Brook, downhill from the athletic field at the High School.





# Surficial Geology of Sharon



Well #4

Well #2

Well #3

Athletic Field







WS1

280-0603

BEACH STREET

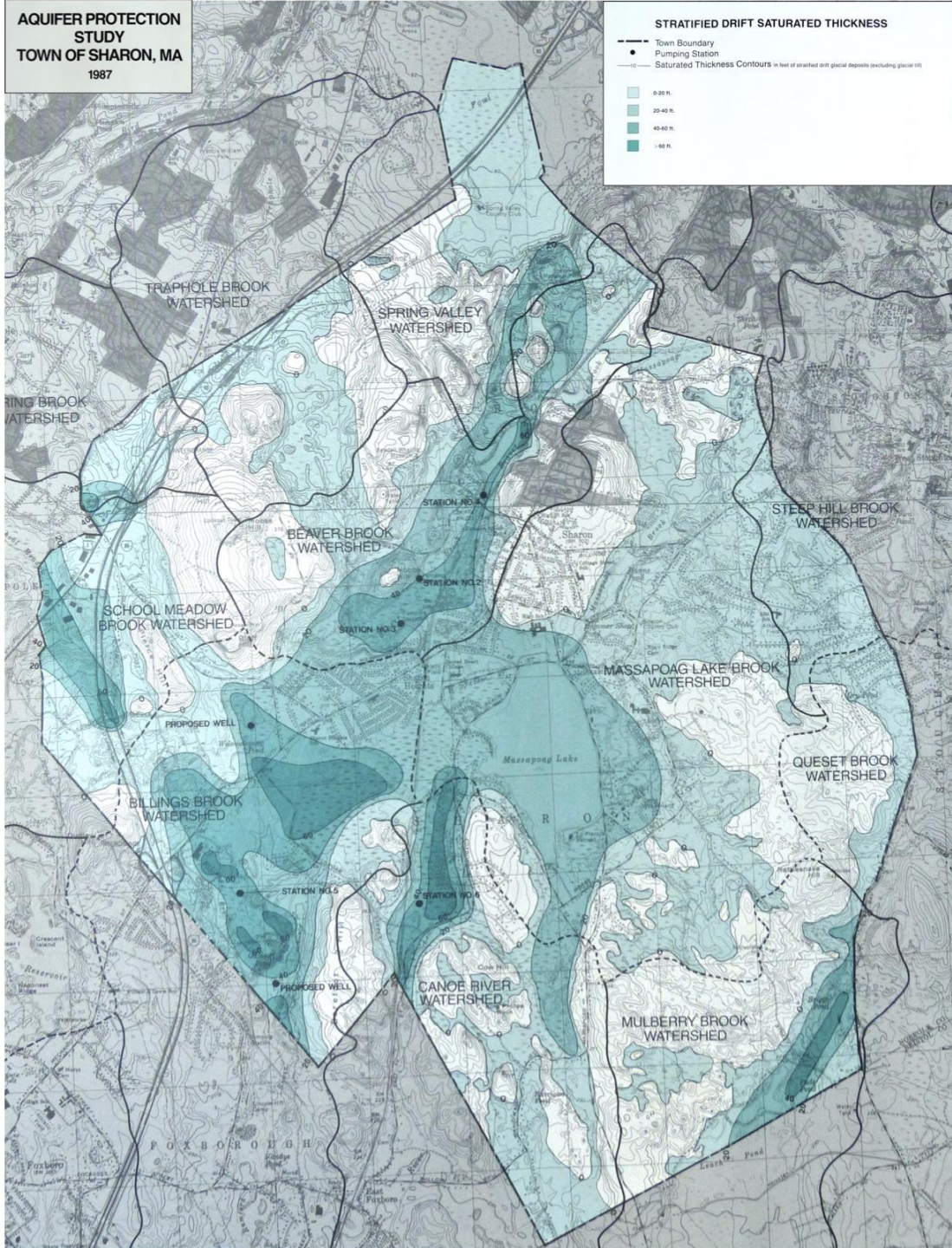
GUNHOUSE STREET

Town of Sharon Public Beach

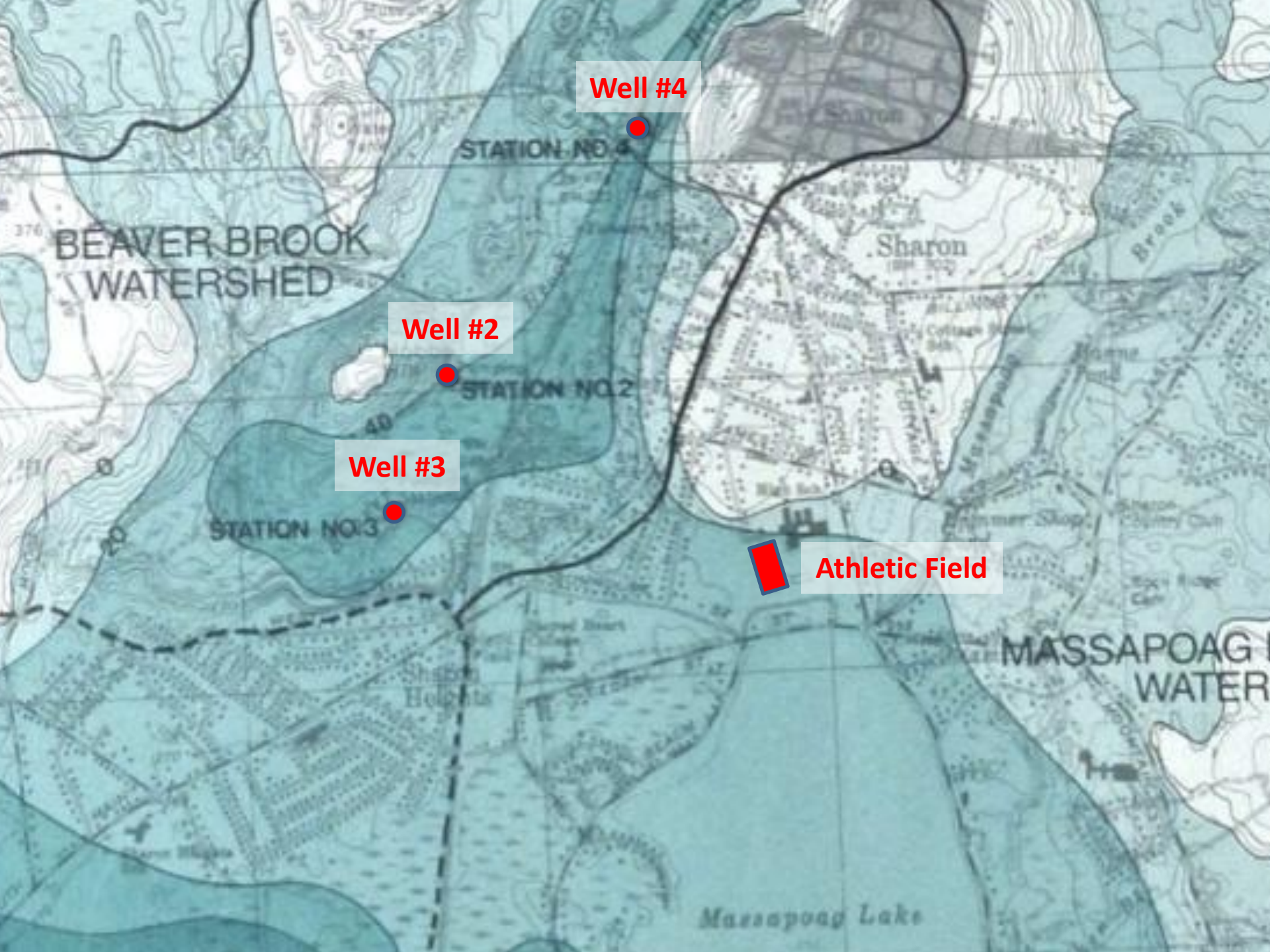
100 m  
200 ft  
42°06'40.3"N, 71°10'58.4"W  
(42.1112, -71.1829)



**AQUIFER PROTECTION  
STUDY  
TOWN OF SHARON, MA  
1987**







**Well #4**



STATION NO 4

**Well #2**



STATION NO 2

**Well #3**



STATION NO 3



**Athletic Field**

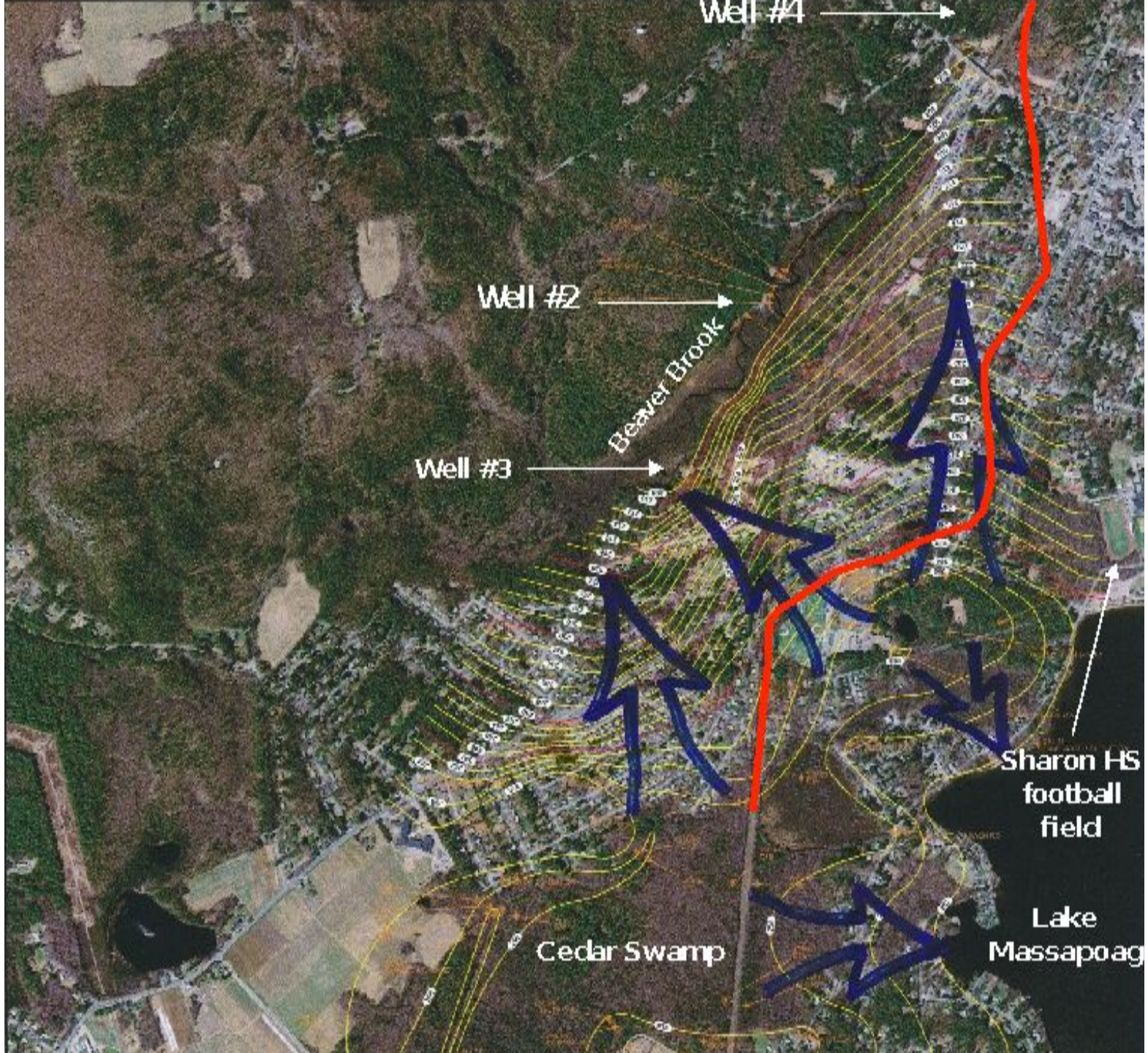
BEAVER BROOK  
WATERSHED

Sharon

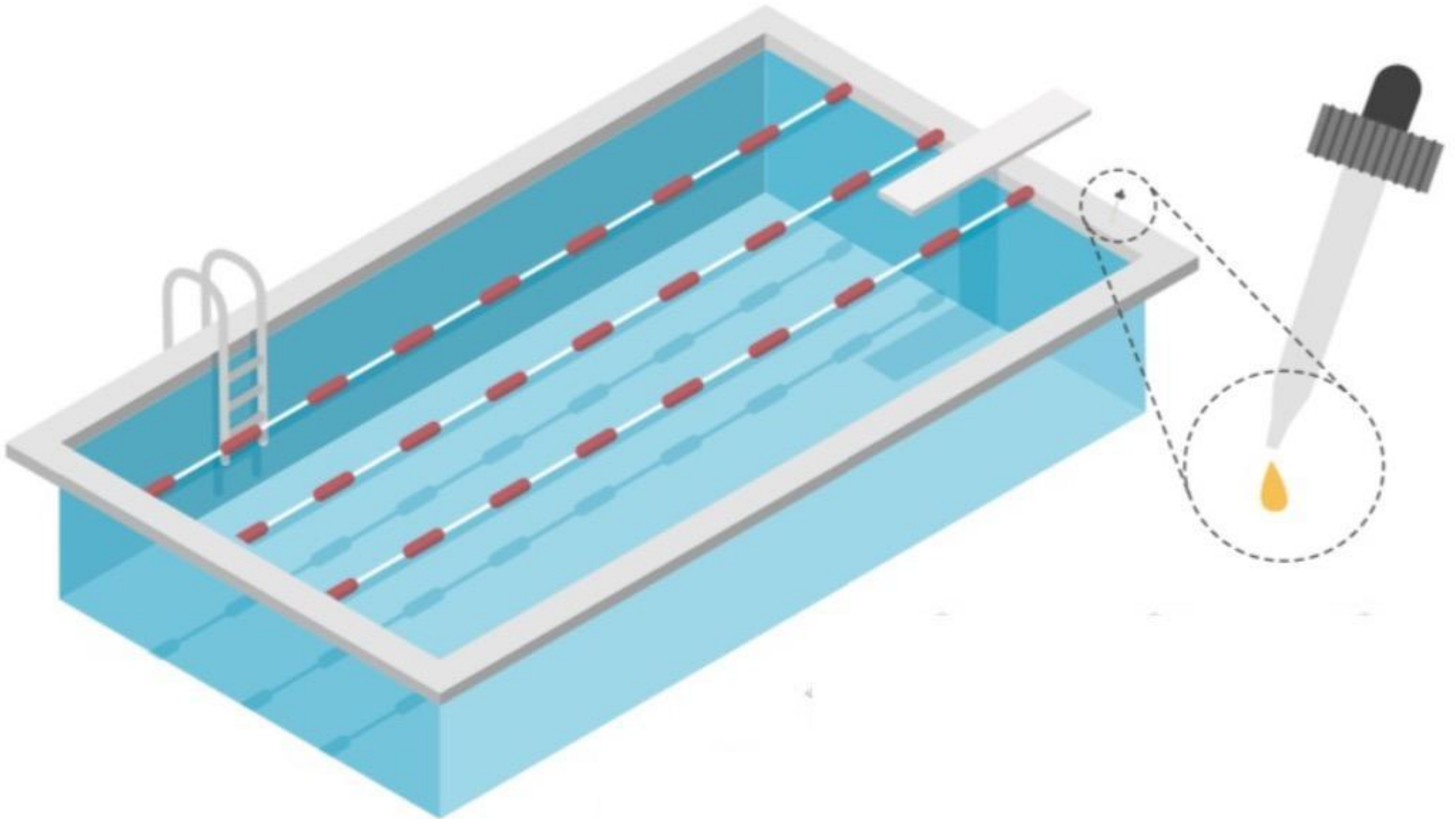
MASSAPOAG  
WATER

Massapoag Lake





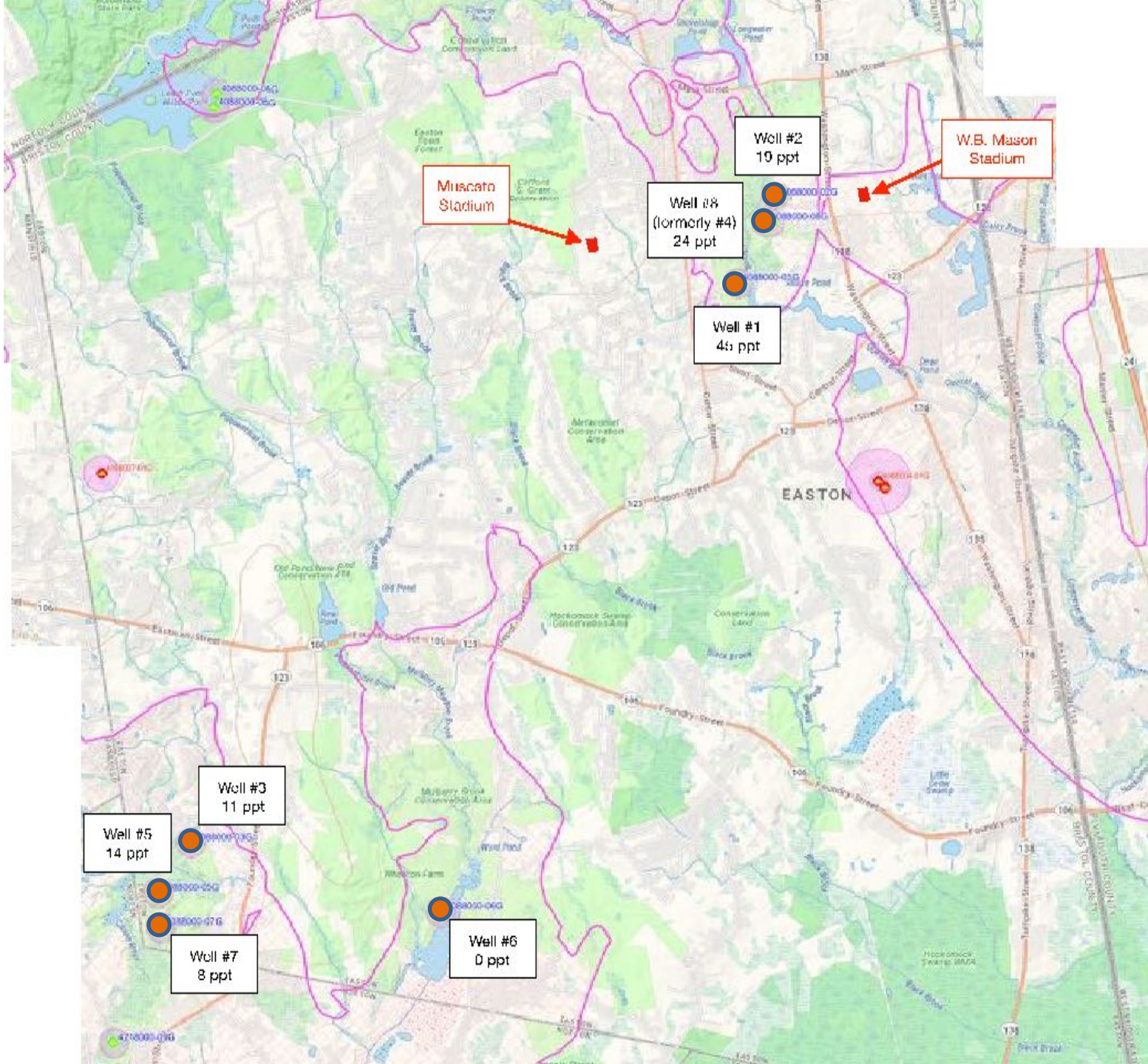






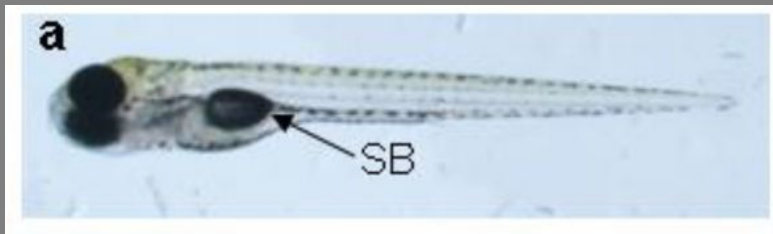




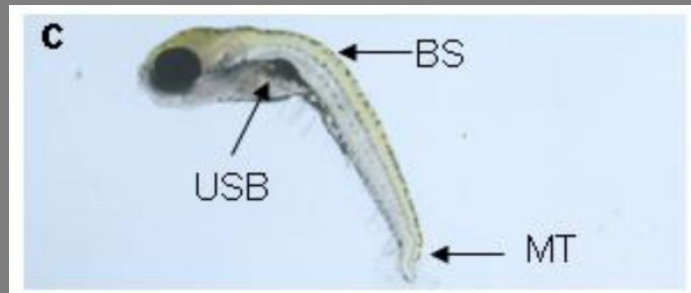


# What is the cost to our children? developmental and immune effects

Normal development  
(zebrafish)



Development with PFAS exposure



PFAS exposure can impact the immune system and **make vaccines less effective.**



# What is the value of what we could lose?



... priceless!