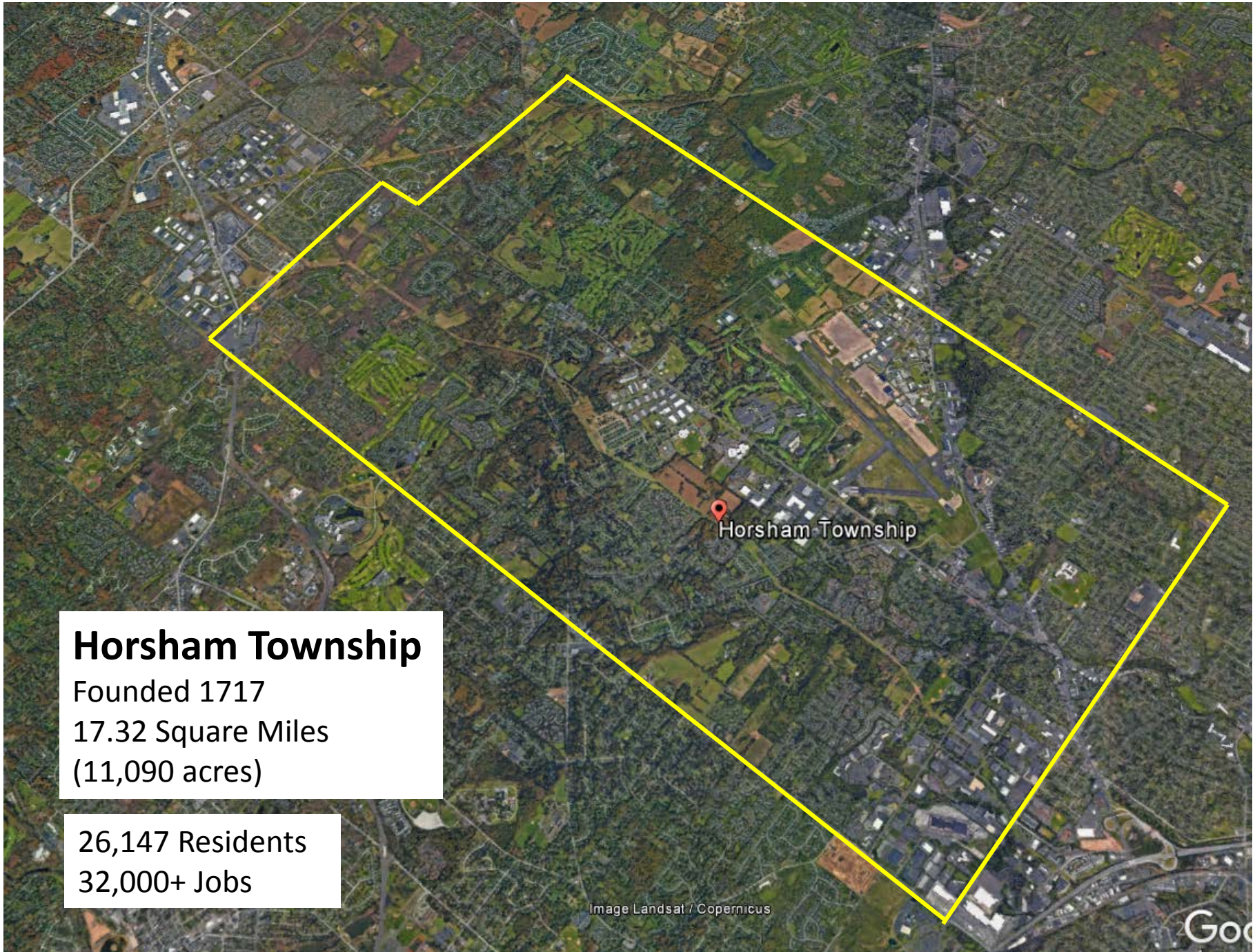




# HORSHAM

Horsham Township  
Horsham Water & Sewer Authority  
Horsham Land Redevelopment Authority



## **Horsham Township**

Founded 1717  
17.32 Square Miles  
(11,090 acres)

26,147 Residents  
32,000+ Jobs

Image Landsat / Copernicus

Go

Since learning of the PFAS situation in 2014, Horsham Township Council has taken decisive actions to protect our community:

- With EPA's Provisional Health Advisory Levels (PFOS 200 ppt PFOA 400 ppt) Horsham Township immediately took steps to come into compliance.
- EPA issued Lifetime Health Advisory Levels (70 ppt combined) in May 2016, causing Horsham Township to establish new objectives.
- A Short Term Remediation Plan was established in June 2016 to address the new EPA standards.
- Retained a public awareness firm to assist in our communications effort
- Retained an internationally recognized consultant to provide technical expertise
- Established a Long Term Remediation Plan in September 2016

All of these efforts have been accomplished at significant cost to Horsham Township citizens. Currently the Township's out of pocket expenses are approaching \$1M. Even more importantly, the stigma of the contamination has potentially impacted local real estate values and employment opportunities.

Horsham Township's Plan has four distinct components:

- Education
- Communication
- Remediation
- Compensation

Horsham has been able to accomplish these efforts through:

- Funding from cooperative agreements with the U.S. Navy and National Guard Bureau
- Funding from a PENNVEST grant
- An on-going surcharge paid by HWSA rate payers
- Township Funds



Horsham Water and Sewer Authority actions have included:

- Removed impacted wells from service
- Increased purchases of water from other sources
- Installed temporary GAC filters on three wells and permanent filters on two other wells; also using resin in the treatment process
- Installed 1.8 miles of new water mains to make public water available to more homes
- Installed additional interconnect with neighboring water supplier
- Currently installing permanent filters to replace the temporary filters the three wells and new filters on five additional wells
- Currently installing permanent filter on Aqua interconnect

Currently HWSA continues to achieve more stringent water quality standards than those set by EPA and DEP.

EPA's Lifetime HAL (70 ppt) is approximately 17 times greater than HWSA's current system-wide average (4 ppt combined)

This average is calculated by a mass calculation formula.

Annual cost is ~ \$1.2 Million and is being funded by Horsham ratepayers



# Challenges

- Installing GAC treatment of wells, particularly those with either small land footprints and/or in residential neighborhoods can be difficult and extremely unpopular with neighboring property owners.

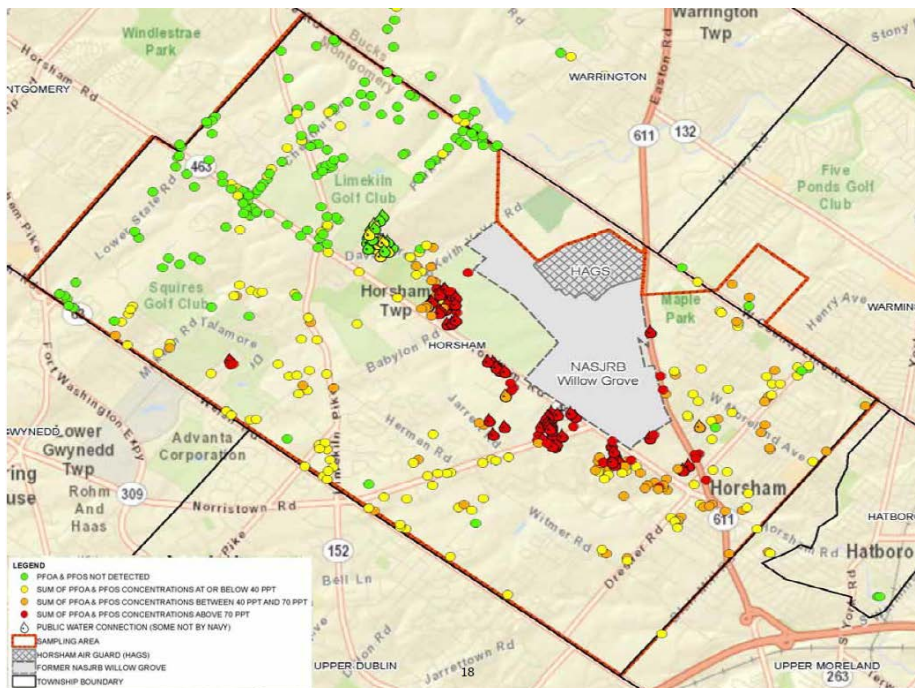




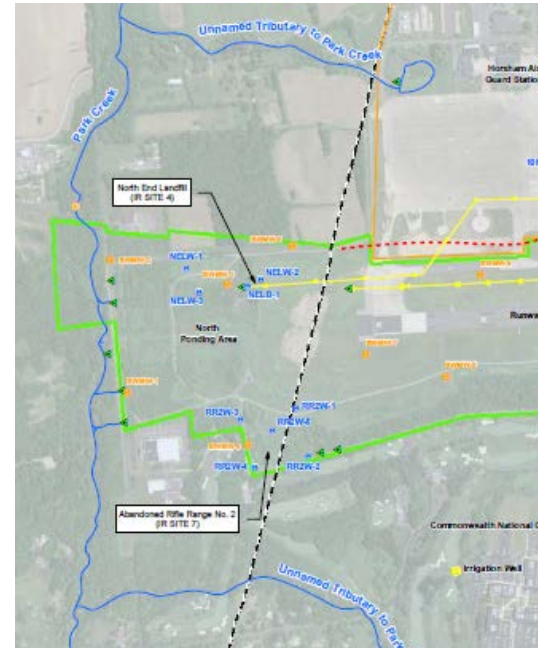
# Challenges (con't)

- Capital and O&M (carbon change-outs) costs are expensive.
- Carbon change-outs can result in wells out of service for days.
- GAC treatment on wells is a substantial change in operational complexity and knowledge – these are transformative changes for small/medium groundwater systems
- Permitting of alternative treatment, such as resin, is proving to be difficult, which is somewhat ironic considering PFAS is not regulated!

- Over 450 properties have private wells
- 101 tested above EPA LHAL level (70 ppt)
- 88 properties connected to public water system (others pending)
- 78 properties tested between 40 and 70 ppt



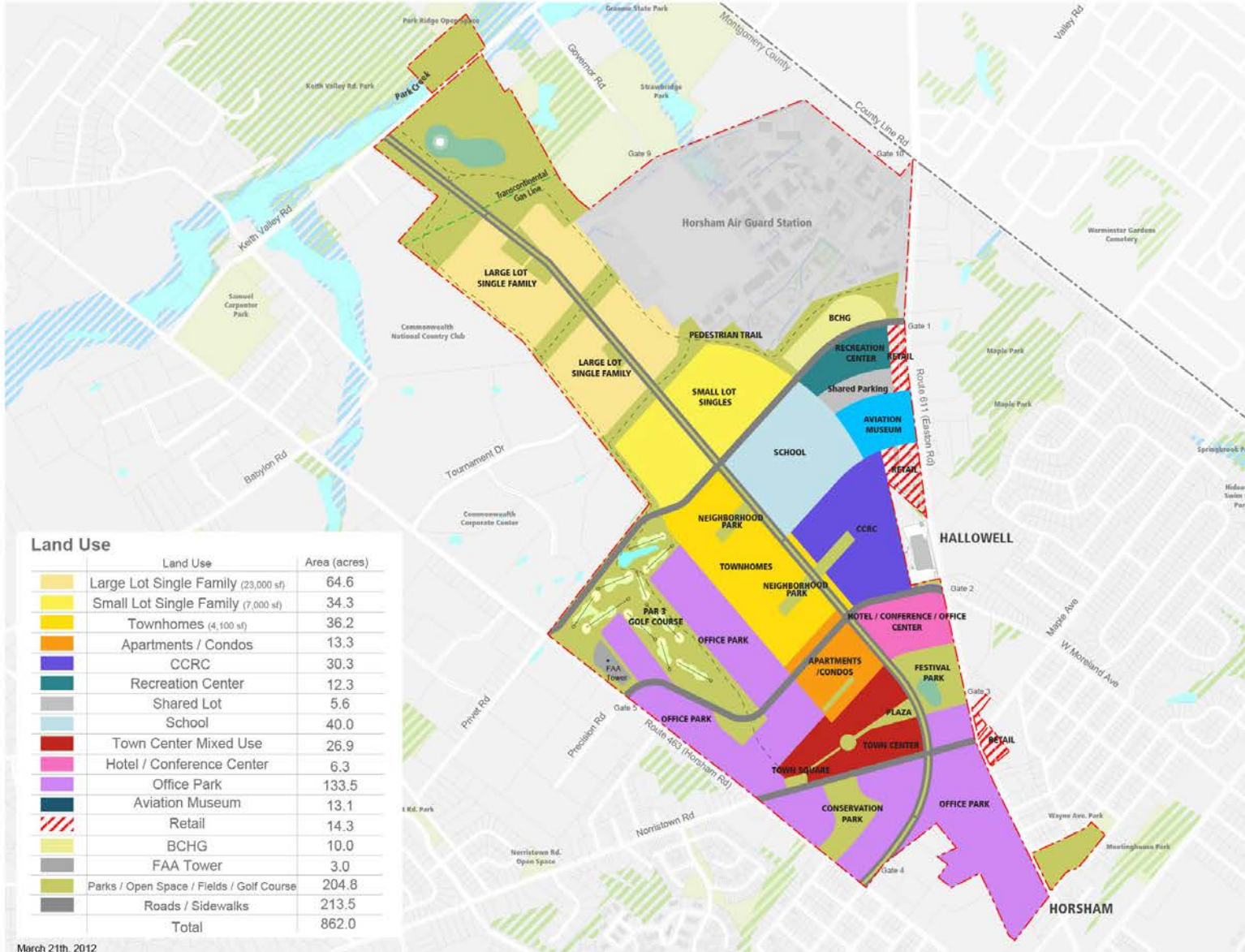
- Stormwater leaving the former Naval Air Station –Joint Reserve Base Willow Grove and the Horsham Air Guard Station has PFOA/PFOS levels above the EPA LHAL
- Much of the stormwater enters Park Creek which likely impacts down stream drinking water sources in other communities



# APPROVED REDEVELOPMENT PLAN

Option F  
Final Preferred Land Use Plan

NAS - JRB Willow Grove Base  
Redevelopment Plan  
Horsham Township, PA



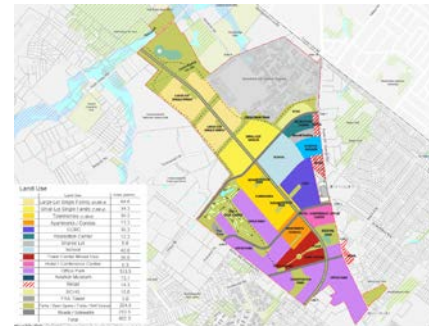
| Land Use | Land Use                                  | Area (acres) |
|----------|---|--------------|
|          | Large Lot Single Family (23,000 sf)       | 64.6         |
|          | Small Lot Single Family (7,000 sf)        | 34.3         |
|          | Townhomes (4,100 sf)                      | 36.2         |
|          | Apartments / Condos                       | 13.3         |
|          | CCRC                                      | 30.3         |
|          | Recreation Center                         | 12.3         |
|          | Shared Lot                                | 5.6          |
|          | School                                    | 40.0         |
|          | Town Center Mixed Use                     | 26.9         |
|          | Hotel / Conference Center                 | 6.3          |
|          | Office Park                               | 133.5        |
|          | Aviation Museum                           | 13.1         |
|          | Retail                                    | 14.3         |
|          | BCHG                                      | 10.0         |
|          | FAA Tower                                 | 3.0          |
|          | Parks / Open Space / Fields / Golf Course | 204.8        |
|          | Roads / Sidewalks                         | 213.5        |
|          | Total                                     | 862.0        |

- Legend**
- Willow Grove NAS
  - Municipal Boundary
  - Parcel
  - Parks and Open Space
  - Horsham Air Guard Station
  - Transcontinental Gas Line
  - NWI Wetlands
  - FEMA Flood Plain
  - Vegetation
  - Habitat Areas

**Sources**  
 NAS GIS data from Weston Solutions Inc. (received from Tetra Tech),  
 Google and Bing Maps,  
 Surrounding context data from DVRPC.



- Redevelopment of the former Naval Air Station –Joint Reserve Base Willow Grove base has been delayed
  - NAS-JRB Willow Grove closed in March 2011
  - Scheduled transfer in September 2011 did not occur
  - Former base continues to be vacant and leaves an economic void created by the base closure
- Potential impacts of PFAS contamination on the Redevelopment Plan are currently unknown and may include deed restrictions and land use controls
- The ability to establish property values and the feasibility of the Redevelopment Plan may need to be re-evaluated





## Concerns:

- Lack of standards for soil, surface water and sediment puts HLRA at risk if future standards require remedial actions on property already developed
- Current focus on drinking water does not address the problem (PFAS in soils continue to leach into the groundwater and contaminate the aquifer which is Horsham Township's drinking water source).

# Recommendations/Needs

- The impacts of the past exposure cannot be ignored – more extensive epidemiology testing for the community is needed to include former military members assigned to the base
- Risk communication strategies to address public concerns concerning past exposures and regulatory inconsistencies are needed
- As the source of the PFAS contamination is known, the citizens of Horsham should not bear any of the costs for removing PFAS from their drinking water

# Recommendations/Needs

- The raw water in the aquifer remains contaminated and will be for a long time – HWSA treating the water at their own wells should not be the long-term remediation method for the aquifer
- Sources of PFAS remain at the base in the water & the soil and must be mitigated
- HWSA, other PFAS impacted utilities, and state primacy agencies need guidance in determining the best available technologies for PFAS treatment and appropriate permitting strategies



# Recommendations:

- PFOS and PFOA should be listed as CERCLA hazardous substances
- Government should retain liability for all PFAS contamination resulting from past use or spills on military property.
- Government standards should be consistent (resolve differences between different agencies (i.e. EPA, ATSDR))
- EPA should require the former NAS-JRB Willow Grove and the Horsham Air Guard Station (HAGS) to have one remedial plan and the same expedited schedule.
- Given the financial impact to the Township and its residents, the federal government should transfer ownership of property at no cost, once the remediation plan has been implemented.

- Horsham continues to be a great place to live, work and play.
- Thanks to the expedited efforts of the Horsham Township community, our drinking water continues to be high quality and safe
- Horsham will be a leader in redeveloping property impacted by PFAS contamination
- But we need EPA's assistance in promptly establishing standards





Thank you for coming to Horsham Township

A special thanks to EPA Region 3 and  
PADEP (Southeast Regional Office)  
for their guidance and support

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