



Water Quality Authority

SAN GABRIEL BASIN CLEAN UP

Randy Schoellerman, P.E.
Assistant Executive Director/Senior Engineer

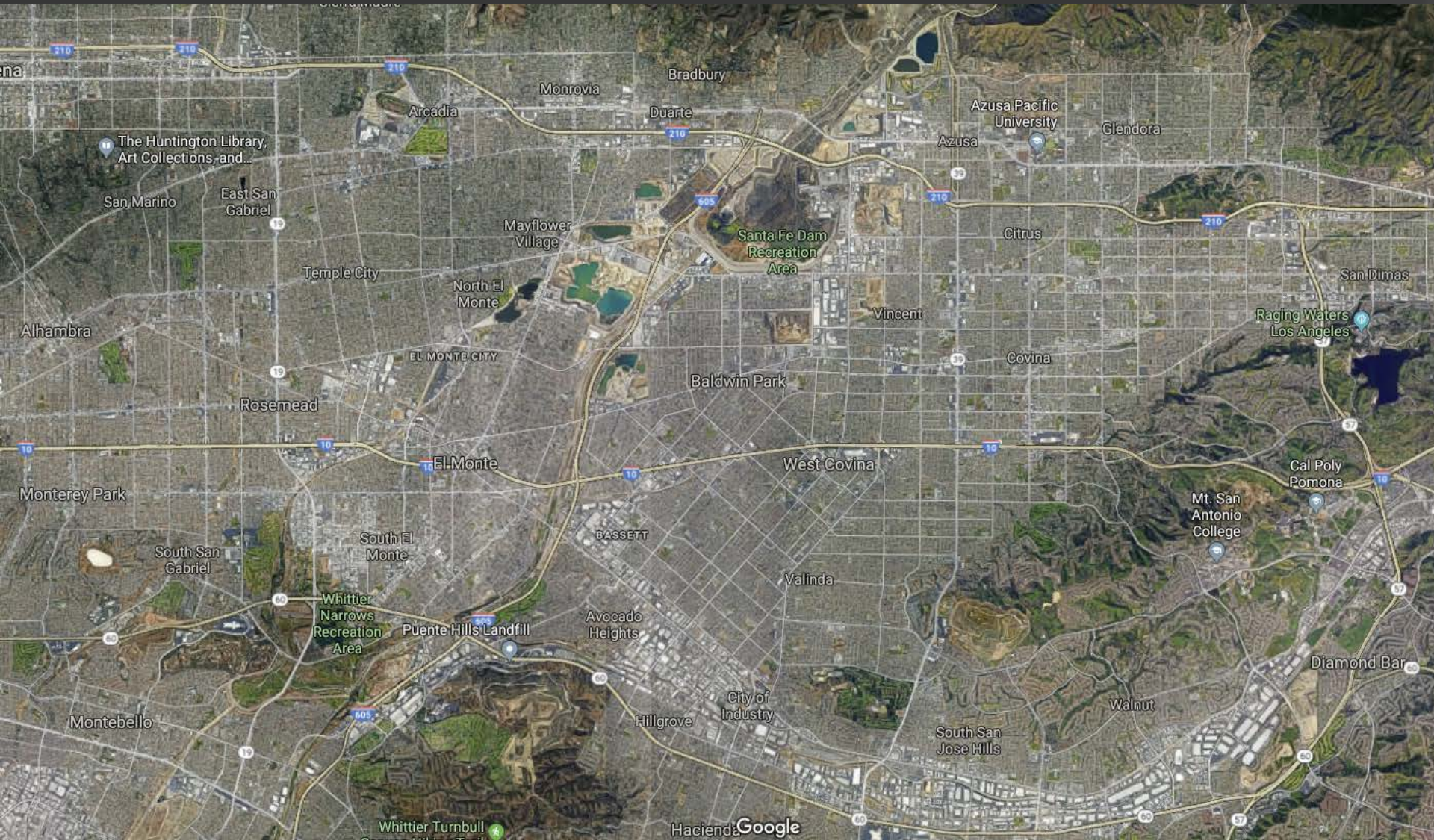
Los Angeles Regional Water Quality Control Board
Groundwater Workshop

October 11, 2018

San Gabriel Basin



San Gabriel Basin



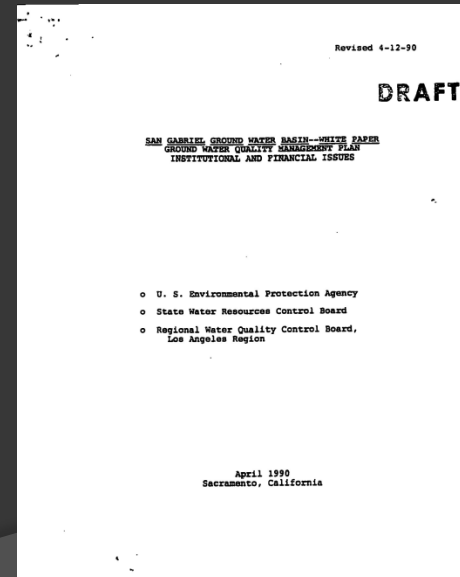
San Gabriel Basin

- In 1979, groundwater contamination first detected in San Gabriel Groundwater Basin
- In the same year the California Department of Public Health (known now as the SWRCB Division of Drinking Water) initiated a well sampling program to determine the extent of the contamination
- In 1984, elevated levels of VOCs were detected in over 59 wells of the San Gabriel Groundwater Basin
- In the same year, EPA added 4 areas of the San Gabriel Groundwater Basin to the National Priority List



San Gabriel Basin

- 1990 White Paper by USEPA, State Water Board and LA Water Board
- Called for the creation of a local agency with power to regulate:
 - Quantity of water produced; and
 - Basin usage for water quality



History of the WQA

- ◎ 11 Member JPA created in 1990
 - Dependent on others for resources
- ◎ 5 Member WQA created in 1992 (SB1679 - Russell)
 - local agency responsible for groundwater cleanup
 - non-regulatory
 - plan and finance treatment projects
 - Groundwater Quality Management and Remediation Plan (“§406 Plan”)
 - coordinate with local, state and federal agencies



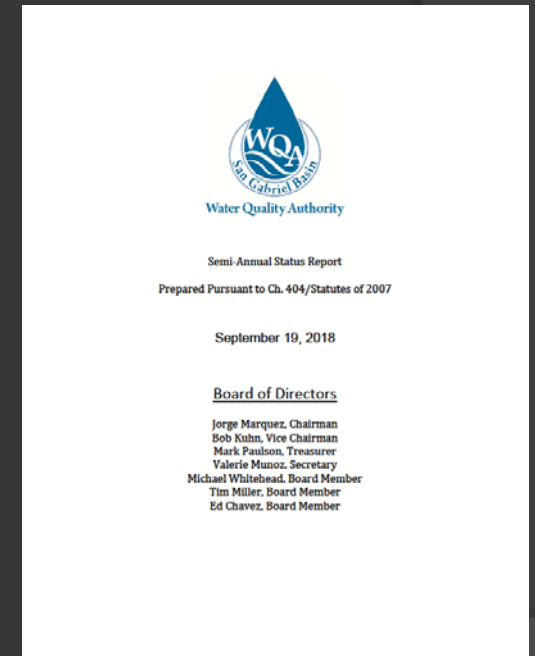
History of the WQA

- Currently a 7 member board created in 2000 (AB 2544 – Calderon):
 - Upper San Gabriel Municipal Water District
 - Three Valleys Municipal Water District
 - San Gabriel Valley Municipal Water District
 - City Council Member - cities with pumping rights
 - City Council Member - cities without pumping rights
 - 2 private water companies (*added by AB 2544*)

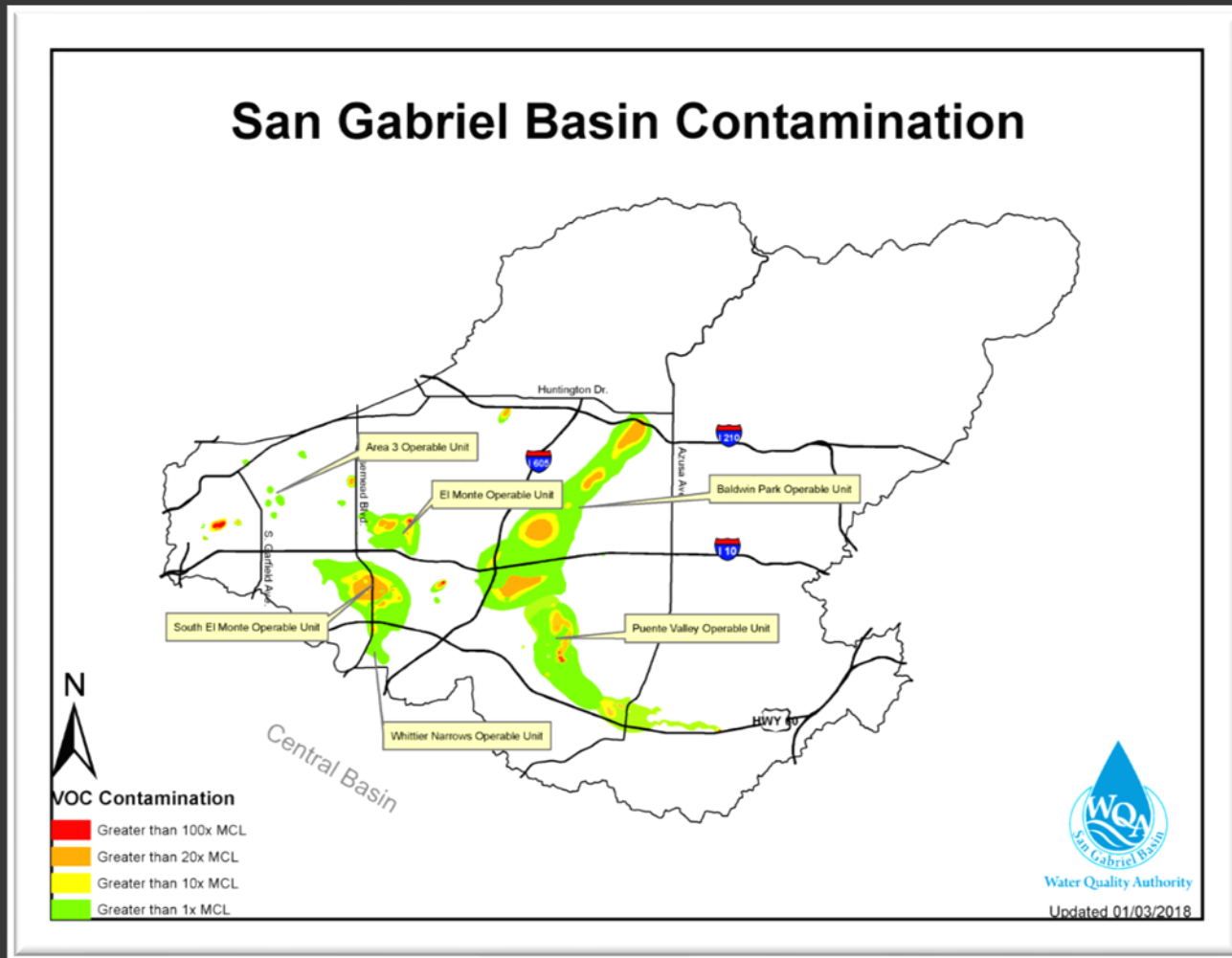


Status Updates

- AB 1010 (Hernandez) in 2007
- Semi-annual status reports sent to State Water Board and LA Water Board
- March & September
- Updates on WQA activities pursuant to §406 Plan

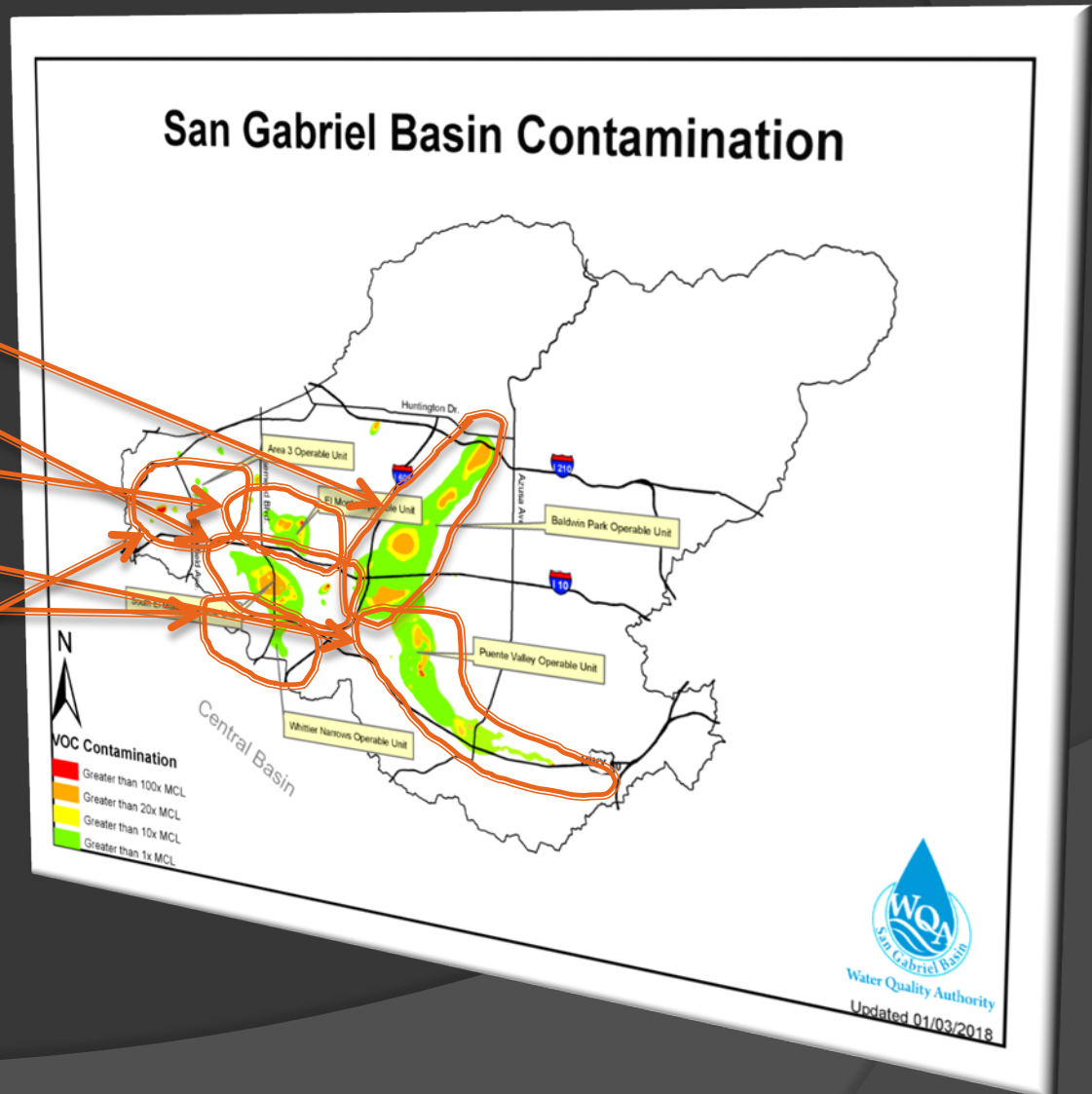


Basin Operable Units



Basin Operable Units

- Baldwin Park
- South El Monte
- El Monte
- Puente Valley
- Whittier Narrows
- Area 3 (Alhambra)



Basin Cleanup - Early 1990's

- ⦿ Thought to be “standard” VOC contamination
 - TCE
 - PCE
 - 1,2 DCA
 - 1,1 DCE
- ⦿ Typical treatment system using air stripping or LPGAC



Basin Cleanup - 1997

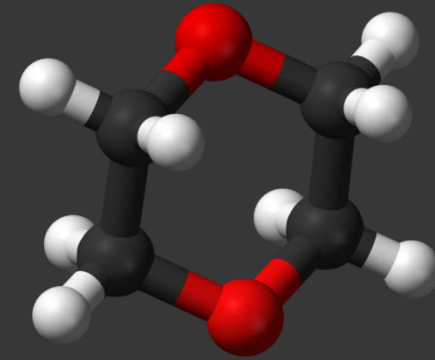
- ◎ Perchlorate was discovered!
 - Scrapped initial designs
 - Started to develop treatment trains
 - Researched different methods for perchlorate treatment
 - Worked with CDPH to develop sampling criteria.

- ◎ Initially chose regenerable resin filter
 - Single pass resin (disposable) was too costly
 - Now disposable is cheaper!

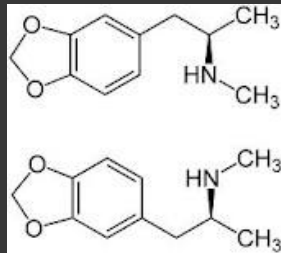


Others...

- Along came 1,4-dioxane



- And Nitrosodimethylamine (NDMA)



Ultraviolet
Light
Oxidation



The first potable perchlorate treatment system in U.S.

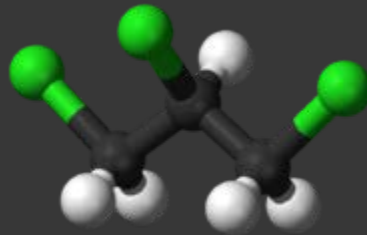
- La Puente Valley County Water District Perchlorate Treatment Facility
- Completed CDPH 97-005 permitting process in 1999



One more contaminant...

- 1,2,3 Trichloropropane

- Caused additional design changes





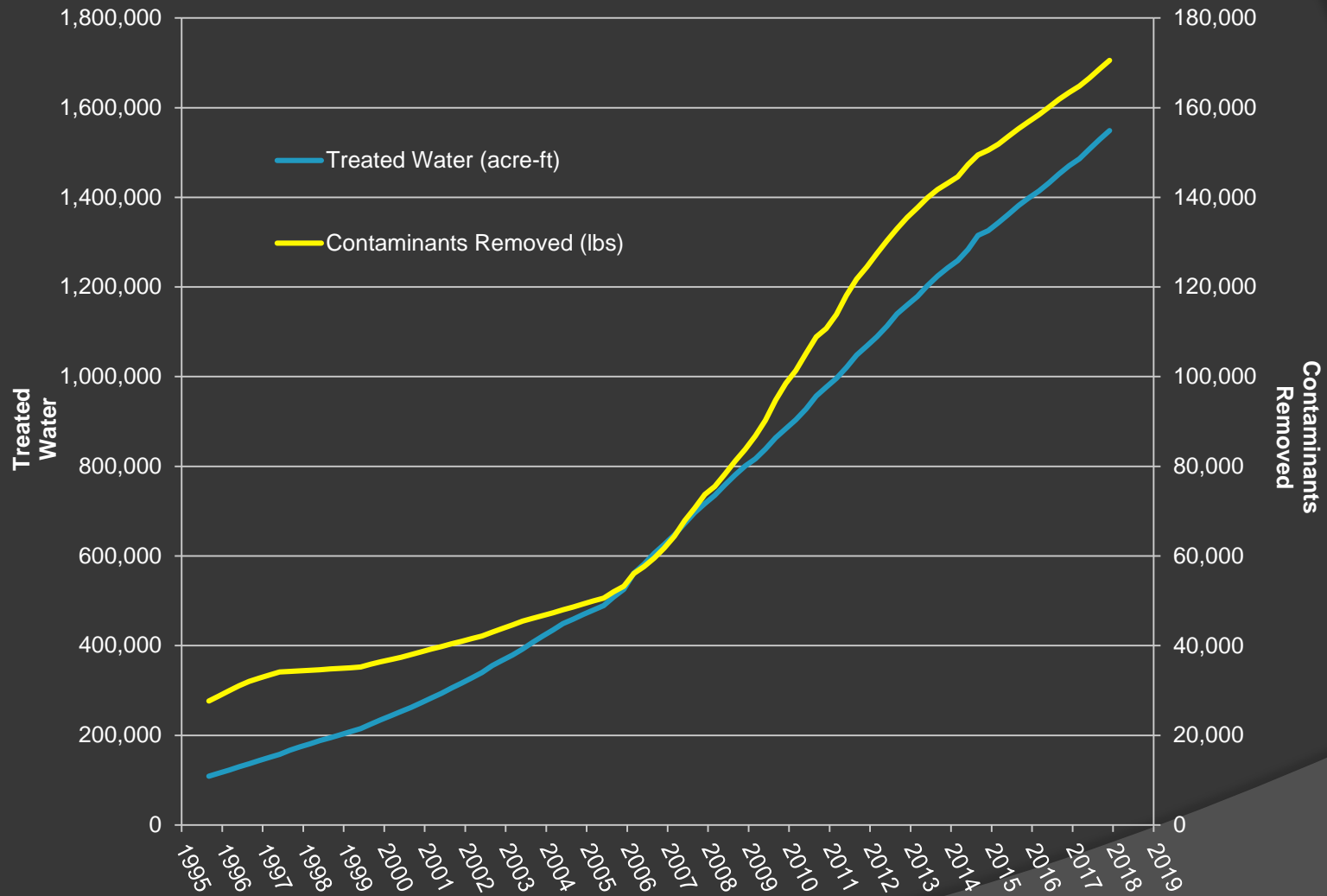
Luna St

Google

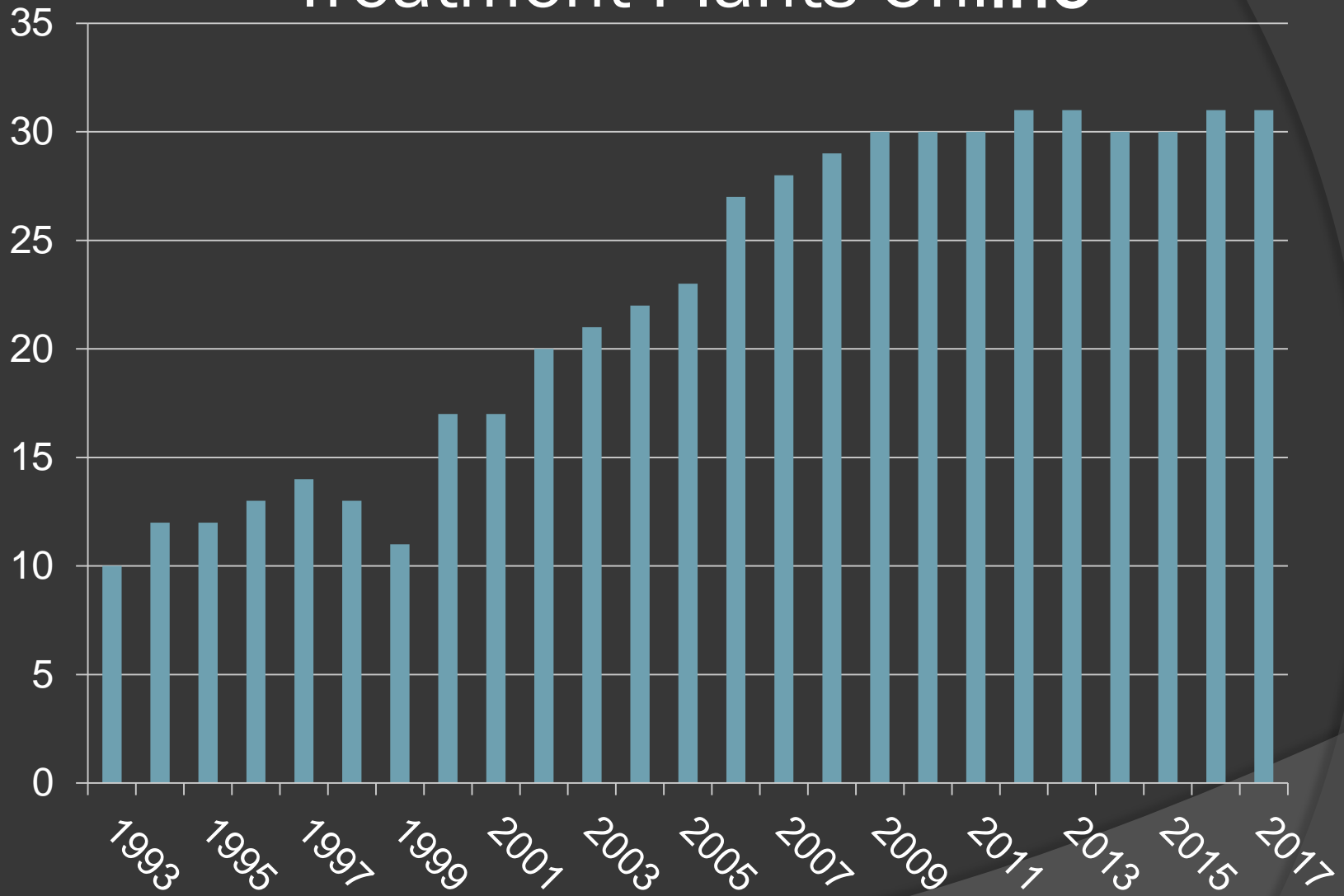


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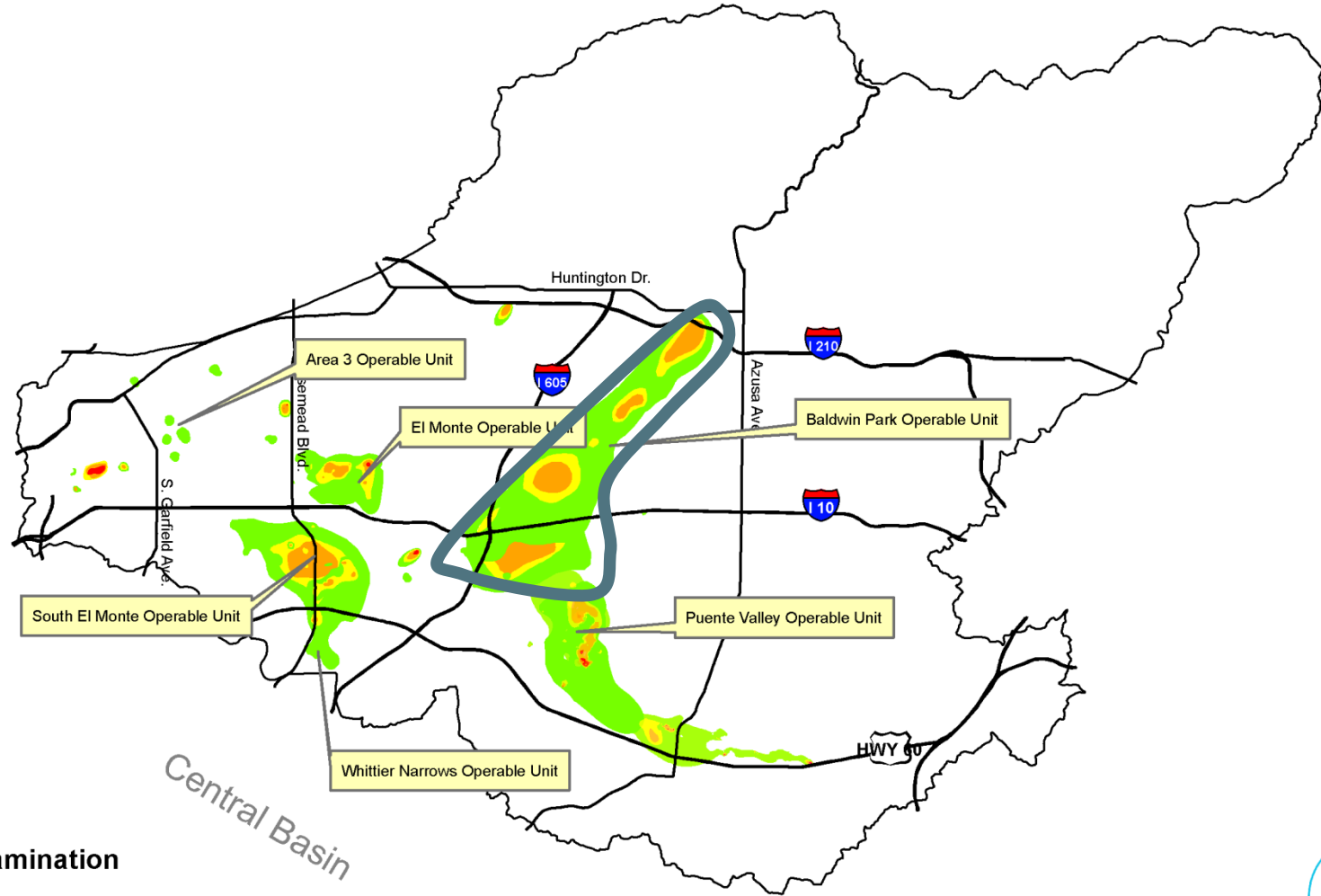
Contaminants Removed



Treatment Plants Online



San Gabriel Basin Contamination



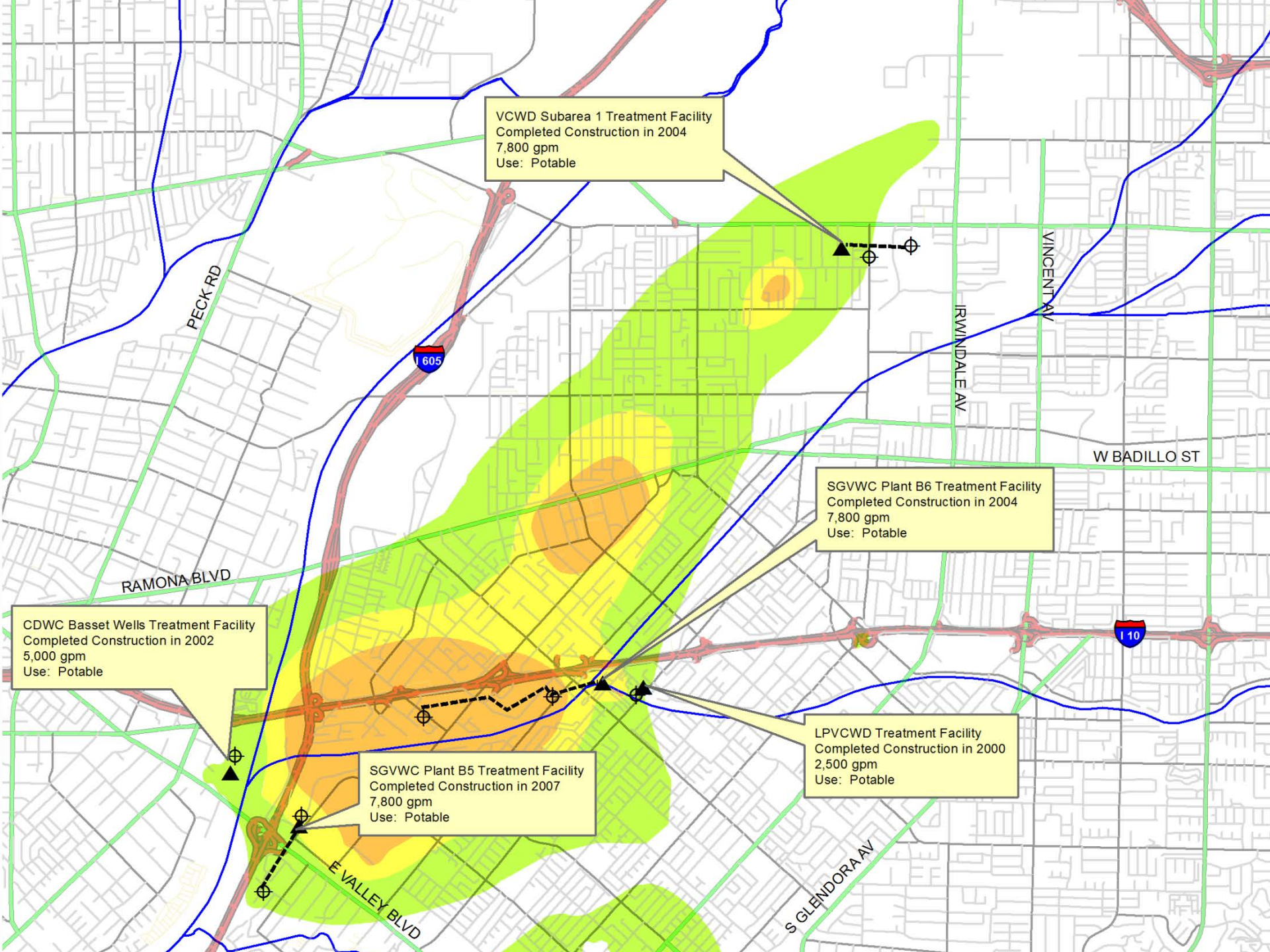
VOC Contamination

- Greater than 100x MCL
- Greater than 20x MCL
- Greater than 10x MCL
- Greater than 1x MCL



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Updated 01/03/2018



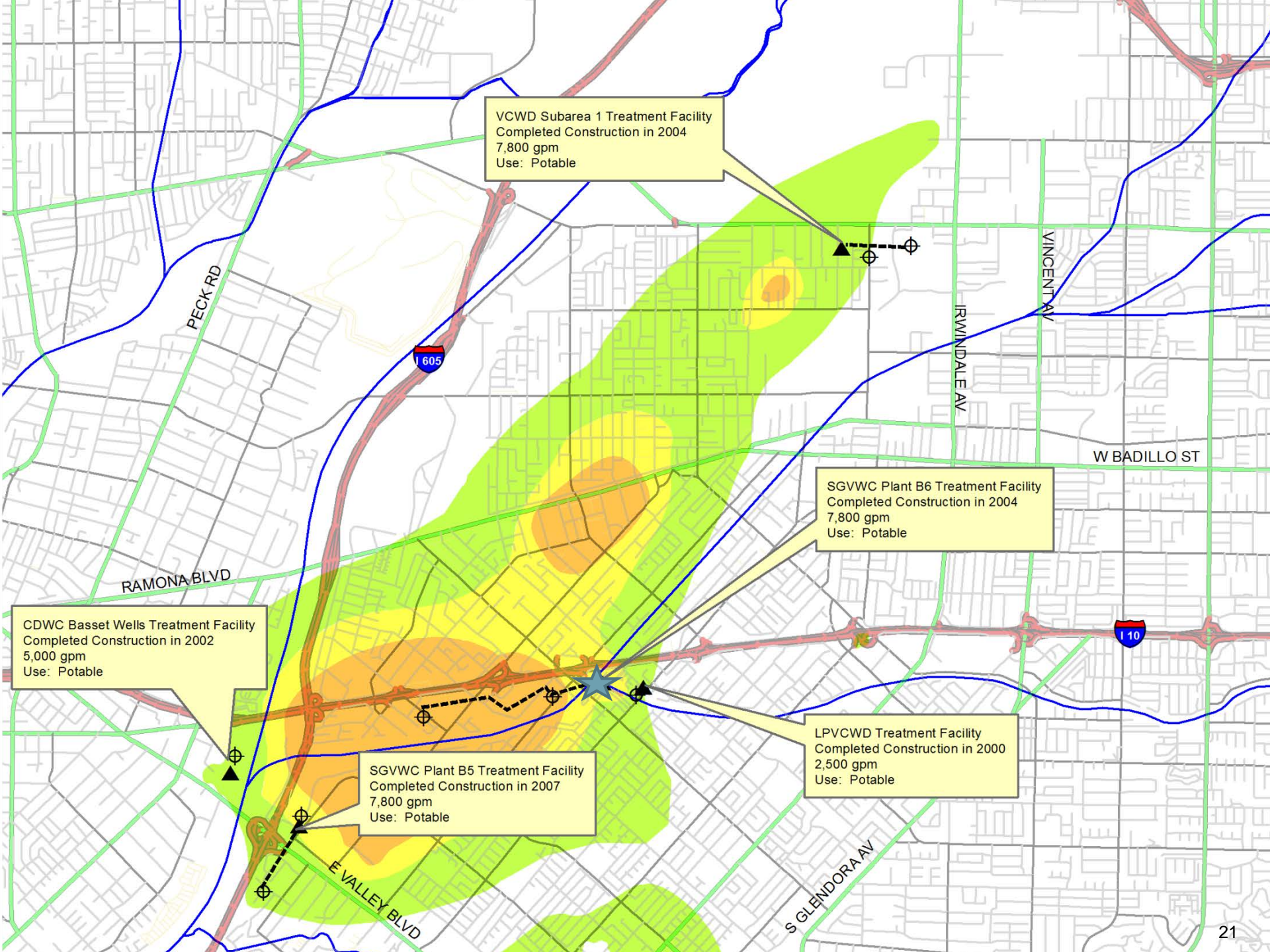
VCWD Subarea 1 Treatment Facility
Completed Construction in 2004
7,800 gpm
Use: Potable

SGVWC Plant B6 Treatment Facility
Completed Construction in 2004
7,800 gpm
Use: Potable

CDWC Basset Wells Treatment Facility
Completed Construction in 2002
5,000 gpm
Use: Potable

SGVWC Plant B5 Treatment Facility
Completed Construction in 2007
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LPVCWD Treatment Facility
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2015





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