



# Wastewater Treatment Plant Upgrade and Expansion Project

Public Works Commission Study Session  
July 12, 2017



## Agenda

- WWTP Upgrade & Expansion Project
- Special Use Permit Process
  - *Questions & Feedback*

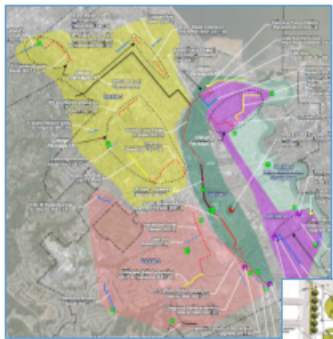


# Wastewater Treatment Plant Upgrade & Expansion Project



# Clean Water Program Drivers & Goals

## Replace Aging Infrastructure



Collection System



WWTP

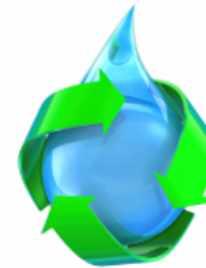


## Provide Higher Levels of Treatment & Capacity Assurance



RWQCB Cease & Desist Order  
NPDES Permit

## Address Sustainability, Climate Change, & Biosolids/Energy



Reusable  
**Clean Water**  
Partnerships



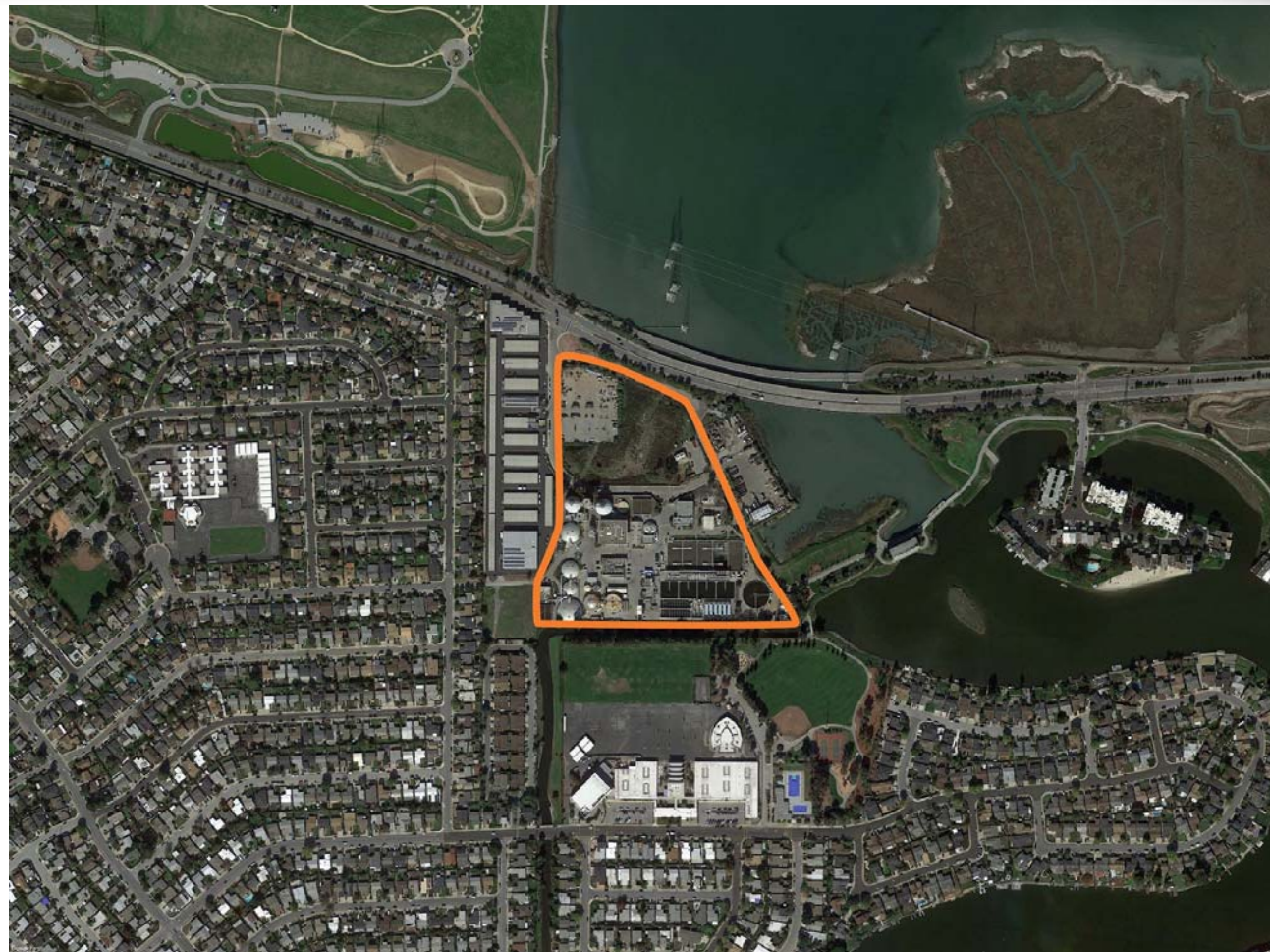
Institute for  
Sustainable  
Infrastructure



Infrastructure Sustainability Metrics



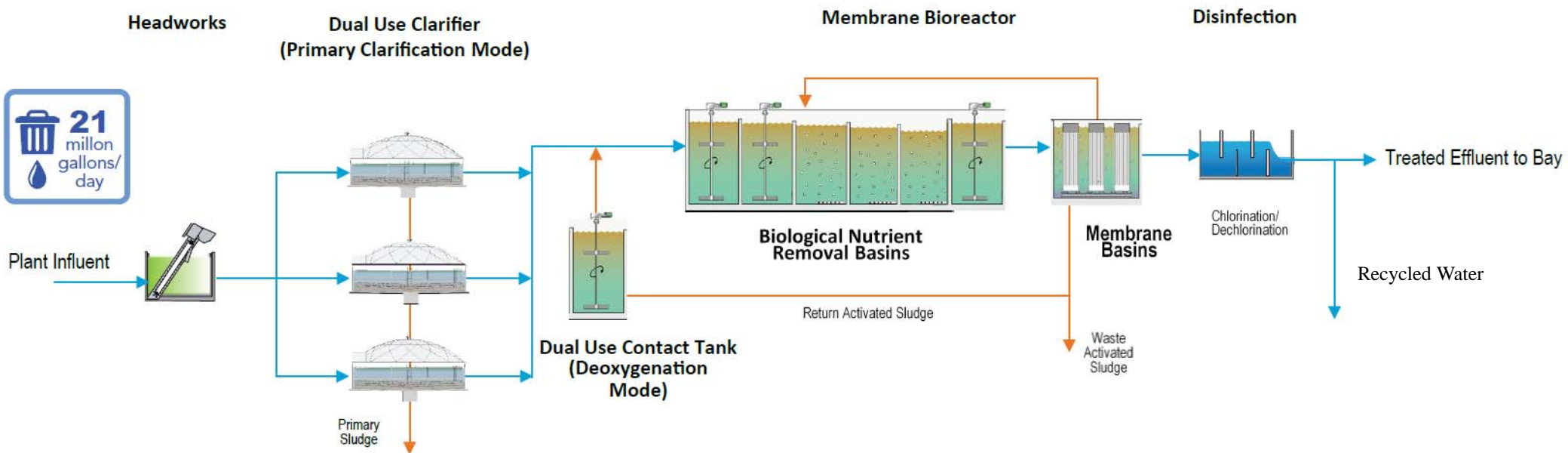
# WWTP Site Location



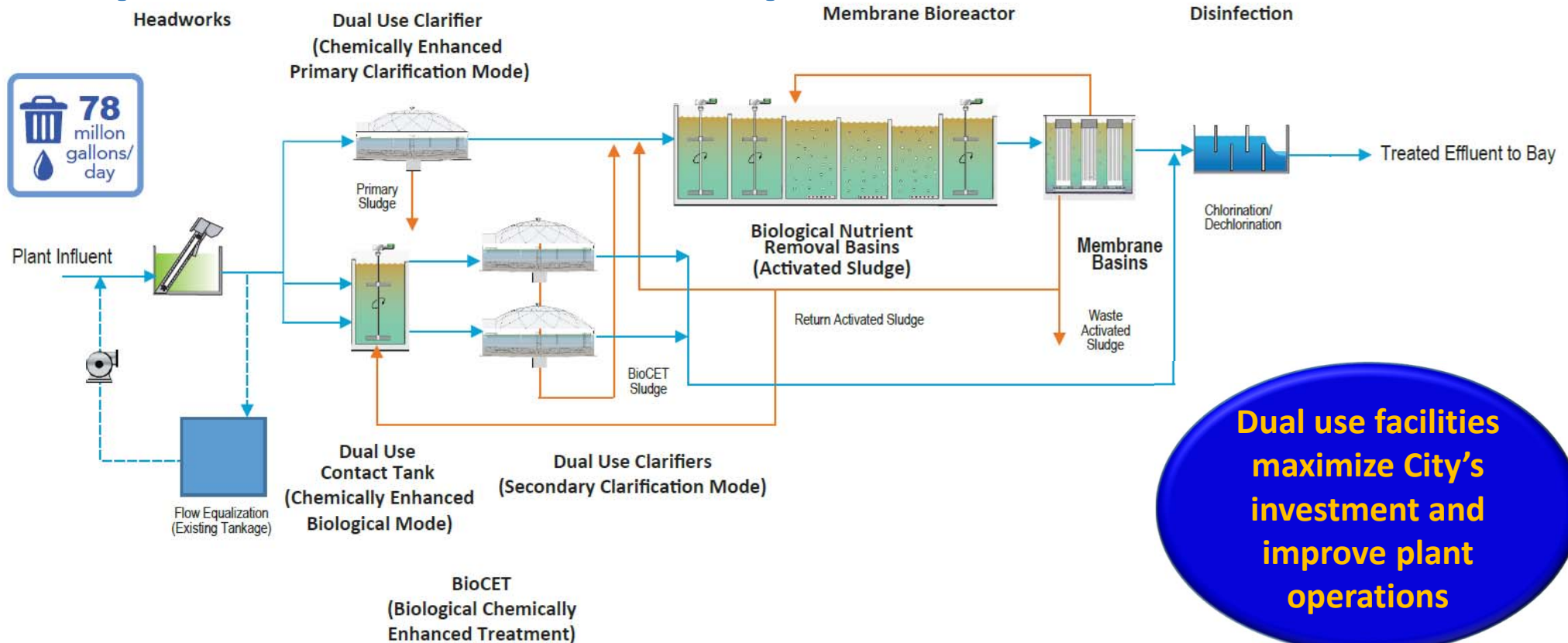
# WWTP Site Location



# Technology Approach; Dual Purpose Facilities for Improved Year-Round Operations – Dry Weather



# Technology Approach; Dual Purpose Facilities for Improved Year-Round Operations – Wet Weather



# WWTP Integrated Site Layout

1. HEADWORKS (PRELIMINARY TREATMENT)
2. DUAL-USE CLARIFIERS (PRIMARY TREATMENT)
3. BIOLOGICAL NUTRIENT REMOVAL (BNR)
4. MEMBRANE BIOREACTOR (MBR)
5. DUAL-USE CONTACT TANK
6. FLOW EQUALIZATION BASIN
7. ODOR CONTROL
8. CHEMICAL SYSTEMS
9. EXISTING DISINFECTION IMPROVEMENTS
10. ADMINISTRATION BUILDING
11. MAINTENANCE WAREHOUSE

\* Existing facilities to be demolished prior to start of major construction are shown in red.



# Architectural & Landscape Design



*Highlights juxtaposition of industrial and natural water treatment systems*

# Community Access



*Pedestrian Access Improvements and Educational Components*

# Administration Building



*Public Interface; Gateway to the WWTP*

# Sustainability

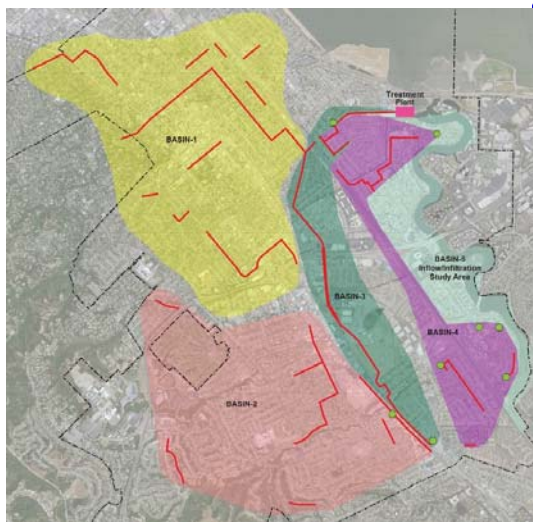


- Pursuing LEED Silver Certification
- Following ENVISION guidelines for sustainable infrastructure



*Inspired by City's sustainable initiative for healthy **environmental**, **economic** and **social** development*

# System Wide Approach and Robust Treatment for Odor Control



Chemical Injection and Vapor Phase Treatment in the Collection System

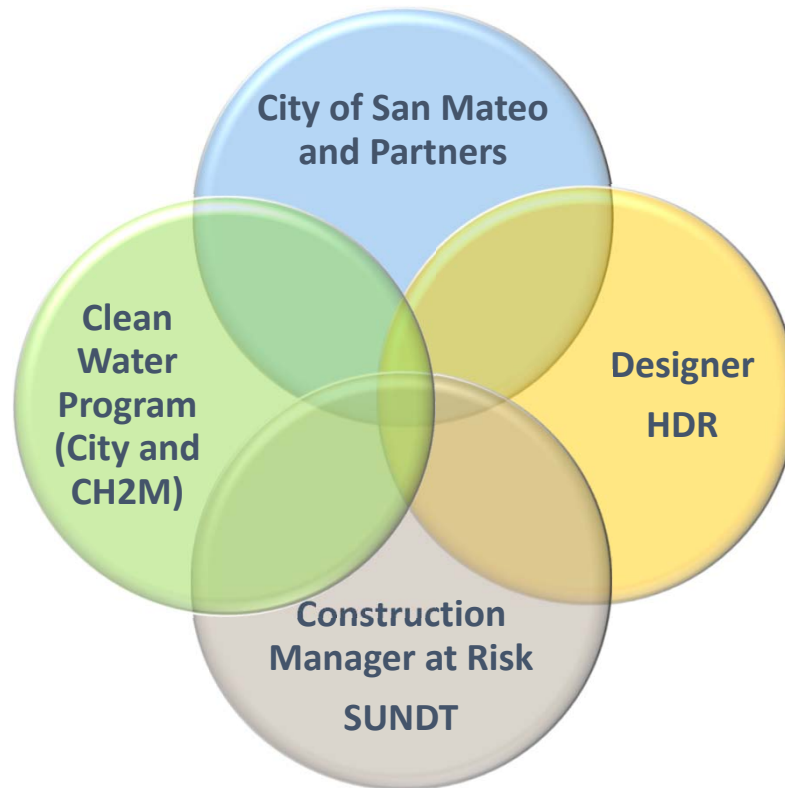


Cover and Vent Headworks, PCs and EQ



Two Stage Treatment with Biotrickling Filters & Carbon Scrubbers

# Alternative Delivery by Integrated Team



# Project Evolution – Where We Are

**2009** Regional Water Quality Control Board (RWQCB) issues Cease and Desist Order to eliminate sewer overflows by 2018

**2013** NPDES Permit – Elimination of Blending at the WWTP by 2020



# Special Use Permit (SUP) Process – Why?

- Required by PEIR (Certified by Council June 2016)
- City Zoning Code requires that public facilities in the Shoreline ("S") Zoning District require the approval of a Special Use Permit
- Permit processed by the City of San Mateo Planning Division



# Special Use Permit Process – Two Stages

- Pre-Application

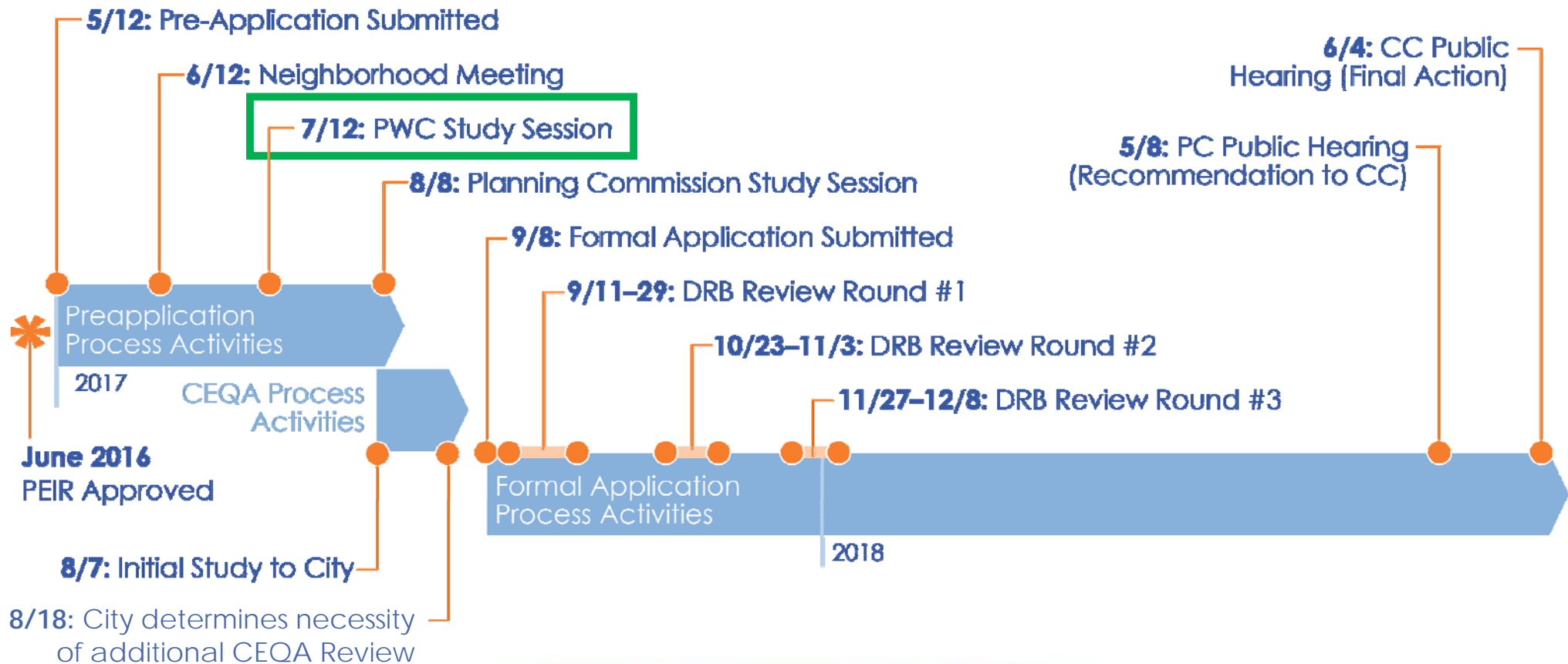
- Neighborhood Meeting (Completed June 12)
- Planning Commission Study Session (August 8)*

- Formal Application

- Development Review Board (DRB)*
  - *Planning, Building, Public Works, Fire, Police, Landscaping*
- Planning Commission Public Hearing
- City Council Public Hearing*



# Special Use Permit Tentative Schedule





## Questions & Feedback