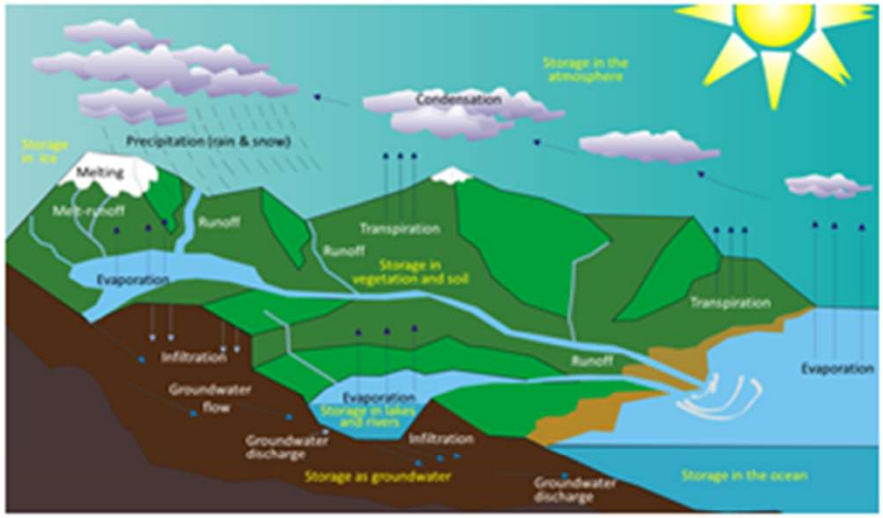
Groundwater Sustainability Plan

Charles D. Herbertson, P.E. & L.S.
Director of Public Works and City Engineer
December 19, 2019

Culver CITY

Profile



- Potable Water Source
  - Imported from Metropolitan Water District
- Watersheds
  - Marina del Rey
  - Ballona Creek
- Groundwater Sustainability Plan
  - www.culvercity.org - Public Works
  -

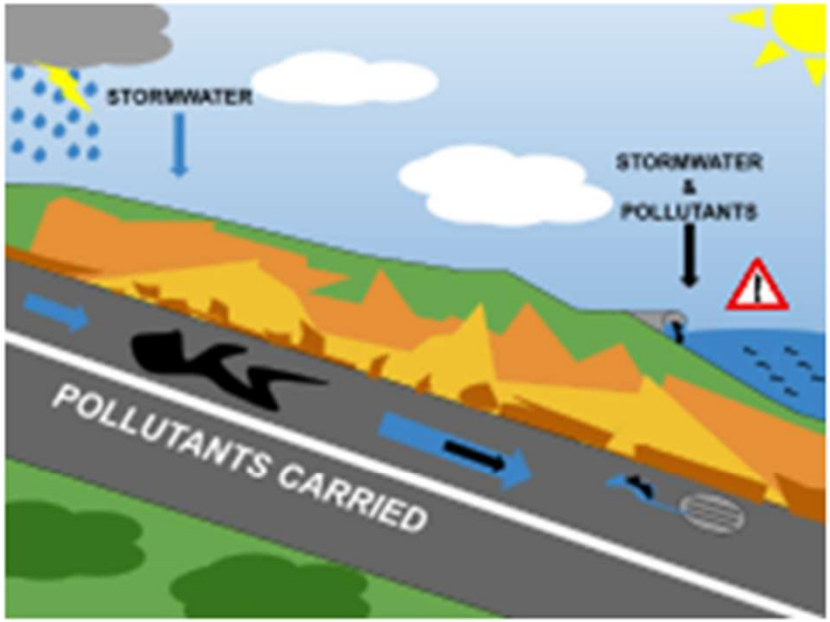
Culver CITY

Conservation

- 2015 - Water Conservation Plan
  - 2016 - Water Efficiency Project at 24 City facilities resulted in 35% reduction
  - 2016 - Residential Parkway Landscaping Ordinance -- prohibits turf
  - 2017-2020 - Replace City Hall landscaping with drought-tolerant plant palette
- Energy Efficiency Projects
  - 2013-Present - reduced energy use by 31% GHG emissions reduced by 1,431 tons
- More info www.culvercity.org/waterconservation

WESTSIDE Energy Partnership

Culver CITY



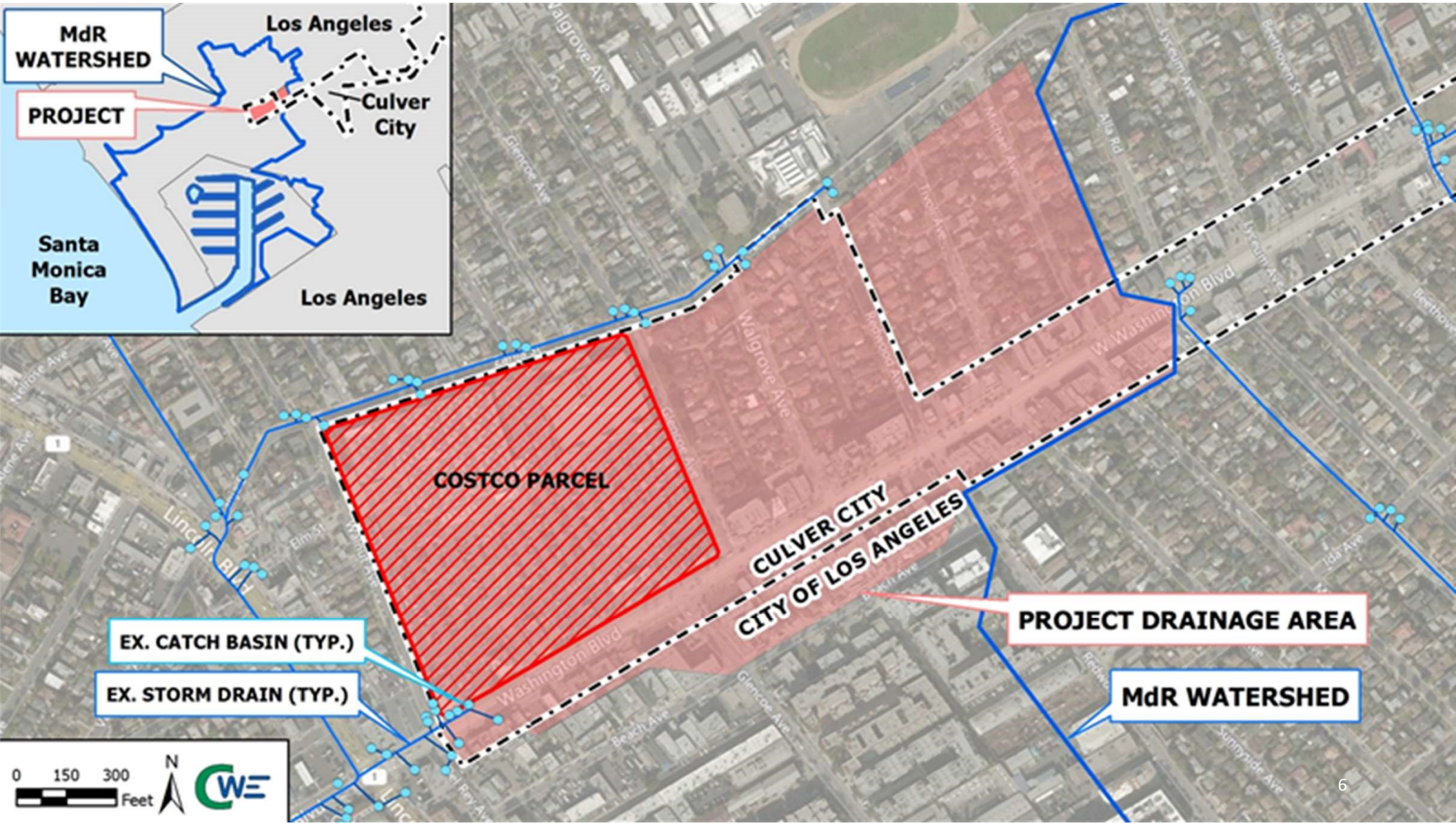
Stormwater Projects

Capture/Pretreat/Divert

- Washington Blvd.
- Culver Blvd.

Washington Boulevard Stormwater and Urban Runoff Diversion Project

- MdR Watershed Group
- Total Maximum Daily Loads
- EWMP Plan - Enhanced Watershed Management Program Plan


MdR WATERSHED
PROJECT
Los Angeles
Culver City
Santa Monica Bay
Los Angeles
COSTCO PARCEL
CULVER CITY
CITY OF LOS ANGELES
PROJECT DRAINAGE AREA
EX. CATCH BASIN (TYP.)
EX. STORM DRAIN (TYP.)
MdR WATERSHED
Walgrove Ave
Glencoe Ave
Lincoln Blvd
Washington Blvd
Beach Ave
0 150 300
Feet
N

Los Angeles
Culver City
EXISTING STORM DRAIN
OXFORD BASIN
PROJECT SITE
Los Angeles
MARINA DEL REY HARBOR
SANTA MONICA BAY
Unincorporated County
bing
Glencoe Ave
Walgrove Ave
SUBSURFACE STORAGE SYSTEM
Washington Blvd
CULVER CITY
CITY OF LOS ANGELES
DIVERSION PIPE
SUBSURFACE STORAGE SYSTEM
Walnut Ave
Lincoln Blvd
DIVERSION SYSTEM AND PRETREATMENT
CONNECT TO SEWER
Glencoe Ave
Beach Ave
EX. SANITARY SEWER (TYP.)
0
125
250
Feet
N
bing

Project Budget

Estimated Project Expenses	
Design	$500,742
Estimated Construction	$8,000,000
Estimated Construction Management/Inspection Services	$500,000
Estimated Geotech. Construction Svcs (Observation & Testing)	$150,000
Total Estimated Project Expenses	**$9,150,742**

Proposed Project Budget	
Washington Boulevard CIP	$6,120,000
LA County Open Space & Park District - Grant Funds	$767,136
Costco Wholesale Corporation	$2,140,000
Available Funds	**$9,027,136**
Required Funds (to be requested for FY20-21 Budget)	$100,000

Culver CITY

Culver Blvd Stormwater and Road Realignment Project

Thursday, December 19, 2019

Ballona Creek Watershed

- Watershed consists of a **128 square mile** drainage area
- Under dry weather conditions, address **bacteria**; wet weather conditions to address **metals**
- **TMDLs** include *metals, bacteria, trash, and toxic sediments.*
- **Bacteria** TMDL and **Metals and Toxics** TMDL by 2021

Project Drainage Area

Harter Ave Drainage Area

Sepulveda Blvd Drainage Area

- Total Drainage Area: 796 acres
- Sepulveda Blvd drainage: 641 acres
- Harter Ave drainage: 155 acres
- Culver City drainage area: 297 acres
- Caltrans drainage area: 22 acres

Regional Board Coordination

- **Culver City requested approval** to allow Beverly Hills to contribute funding and get credit for the Project under the Ballona Creek EWMP
- The **Regional Board approved** the approach based on water quality benefits
- This **partnership** allows for the **pollutant load reduction to be credited** towards Culver City and Beverly Hills requirements

Water Boards

Los Angeles Regional Water Quality Control Board

May 14, 2018

VIA EMAIL ONLY

charles.herbeiser@culvercity.org

Mr. Charles D. Herbeiser
Public Works Director / City Engineer
9770 Jefferson Boulevard
Culver City, CA 90232

RESPONSE TO LETTER REGARDING CULVER BOULEVARD REGIONAL INFILTRATION AND RETENTION PROJECT

Dear Mr. Herbeiser:

On April 20, 2016, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) approved the Ballona Creek Watershed Management Group (Group) Enhanced Watershed Management Program (EWMP).

On December 5, 2017, the City of Culver City submitted a letter proposing a method of how BMP capacities will be credited among Permittees implementing the Culver Boulevard Regional Infiltration and Retention Project (Project), a regional project that contributes towards the achievement of compliance milestones in the Group's EWMP. The proposal allows the City of Beverly Hills to contribute towards and get credit for completion of the Project under the Group's EWMP although its jurisdiction lies outside the Project's drainage area.

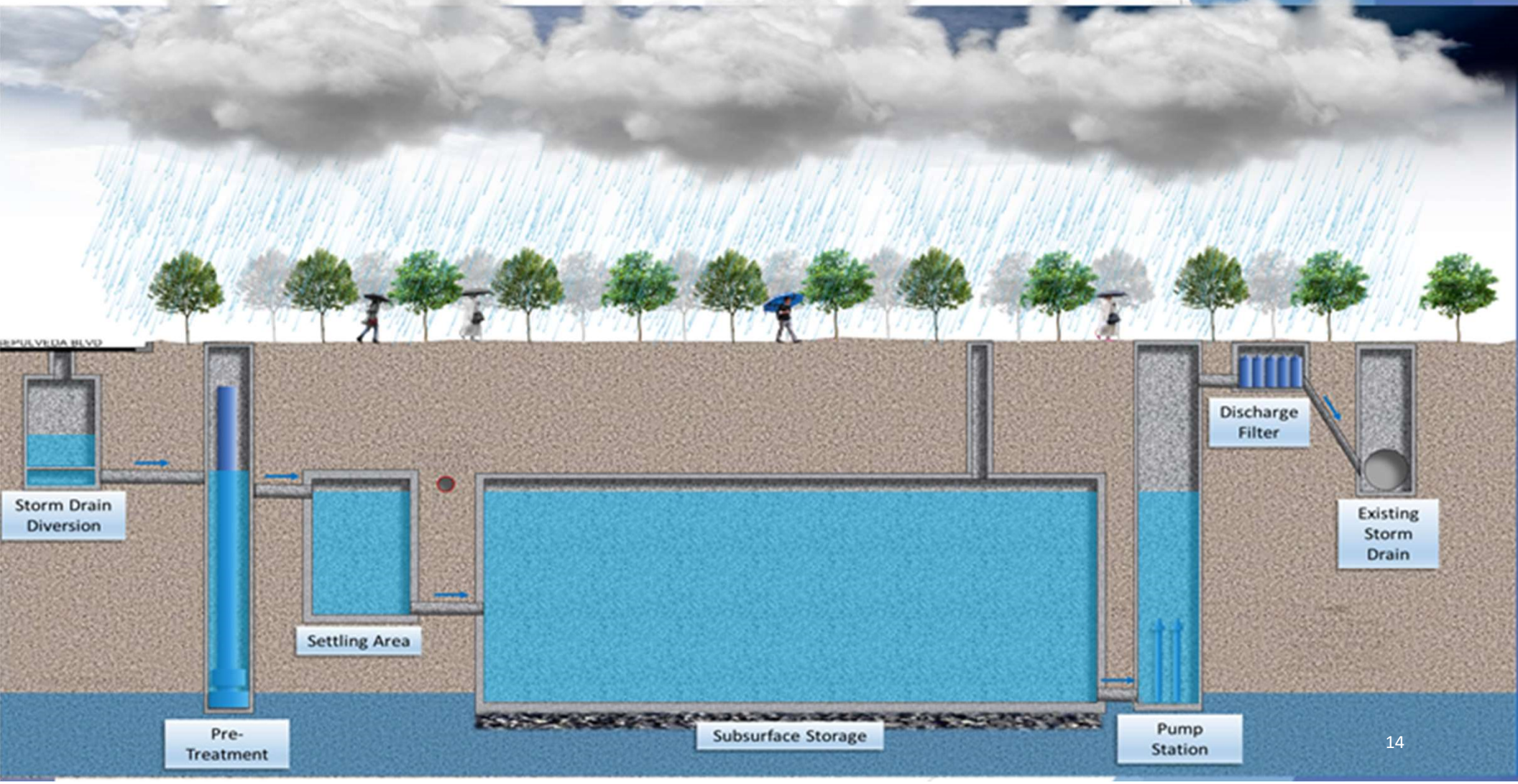
This letter is to inform you that the arrangement proposed by the City is acceptable and consistent with the language included in Section 7.1 of the Group's EWMP, which states that the Group "will show equivalency for achieving the corresponding Compliance Target(s)" in the EWMP Implementation Strategy. As the City implements the Project, it should ensure the following:

1. The "Structural BMP Capacity" credited to the City of Beverly Hills under the EWMP is based on the actual sizing of the Project.
2. The "Structural BMP Capacity" credited to the City of Beverly Hills under the EWMP will be added to compliance targets for the City of Los Angeles in the areas draining to the "Ballona Creek subwatershed" as described in the EWMP (i.e. not in the "Sepulveda Channel" or "Centinela Creek" subwatersheds).

Cost Analysis

ITEM	DESCRIPTION	VALUE
	Data Input	
1	Tributary Drainage Area (acres)	303
2	85th percentile, 24-hr storm event intensity (in/acre)	1
3	Assume # of Storm Events per Yr.	10
4	Design BMP Capacity (ac-ft/rain event)	19.43
5	Estimated Project Cost ($M)	$ 15,550,000
6	Assume Project Life-Time (Yrs)	30
7	Annual O&M Cost (Assume 10% of capital cost or up to $150,000/year)	$ 150,000
8	Assume Inflation Rate	3%
	Calculations	
9	Total Volume of H_20 generated per Rain Event (ac-ft)	25.25
10	Total Volume of H_20 generated per Year (ac-ft)	252.50
11	Total Volume of H_20 Captured thru BMP per year (ac-ft)	194.3
12	Total volume of H20 Captured thru BMP through Project Life-Time (ac-ft)	5829
	Cost per ac-ft of BMP	
13	**O&M Cost of Project over Projected Lifetime**	$ 4,500,000
14	**Cost ($/ac-ft) of BMP Capacity per Rain Event**	$ 800,300
17	**Compliance Credit to Beverly Hills (ac-ft)**	**4.4**
18	**Contribution from City of Beverly Hills**	**$ 3,500,000**

Project Profile



Section @ Center Street
PARKING BUFFER
CULVER BOULEVARD
MEDIAN PARK
LITTLE CULVER

NATIVE PLANTING
GREEN GATEWAY
FLOWERING TREES
BIOSWALE PLANTING AND TREES
PEDESTRIAN PATH
BICYCLE PATH
BUFFER PLANTING
GREEN STREET BIOSWALE
CULVER BOULEVARD
LITTLE CULVER

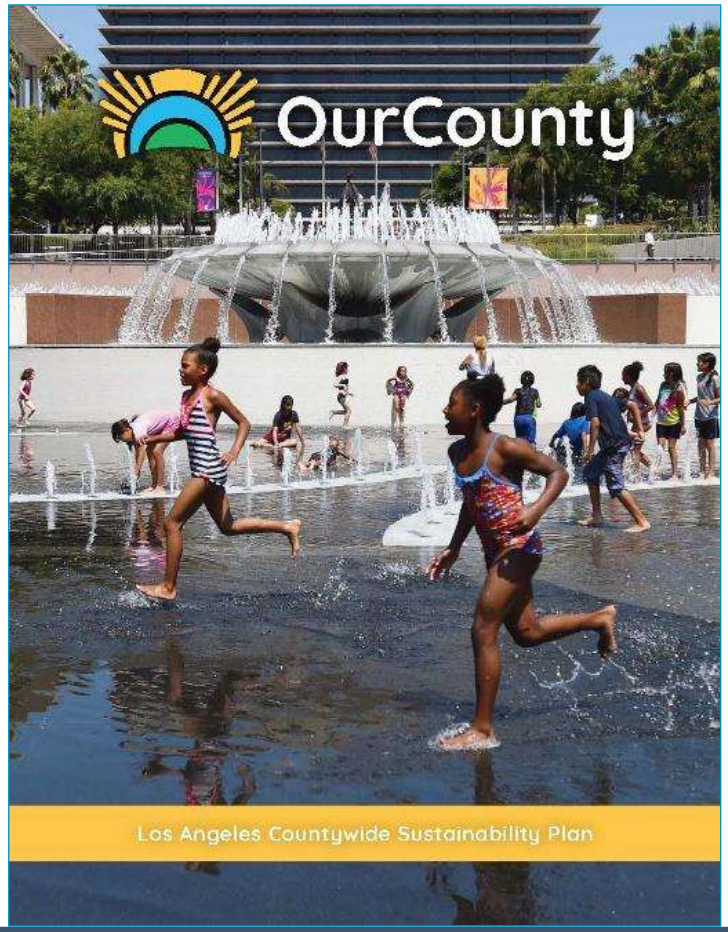
CULVER BOULEVARD MEDIAN AT SEPULVEDA

RETAINING WALL AND BERMING CONCEPT

SIGNATURE TREE
WATER NARRATIVE SIGNAGE
BERMED AREA
SEATING AREA
STEPS UP
RAMP UP
AVENUE

Los Angeles County – Groundwater Sustainability

- OurCounty: Countywide Sustainability Plan
- Three goals targeted on water systems and water conservation
  - Goal 2: Buildings and infrastructure that support human health and resilience
  - Goal 5: Thriving ecosystems, habitats, and biodiversity
  - Goal 9: Sustainable production and consumption of resources



Goal 2: Buildings and infrastructure that support human health and resilience

- Strategy 2C
  Create an integrated and resilient water system

  - Countywide Targets

    - Baseline: **41%** of County's water supply from local sources in 2017
    - 2025: Source **50%** of water locally
    - 2035: Source **65%** of water locally
    - 2045: Source **80%** of water locally

Goal 2: Buildings and infrastructure that support human health and resilience

- Strategy 2C
  Create an integrated and resilient water system

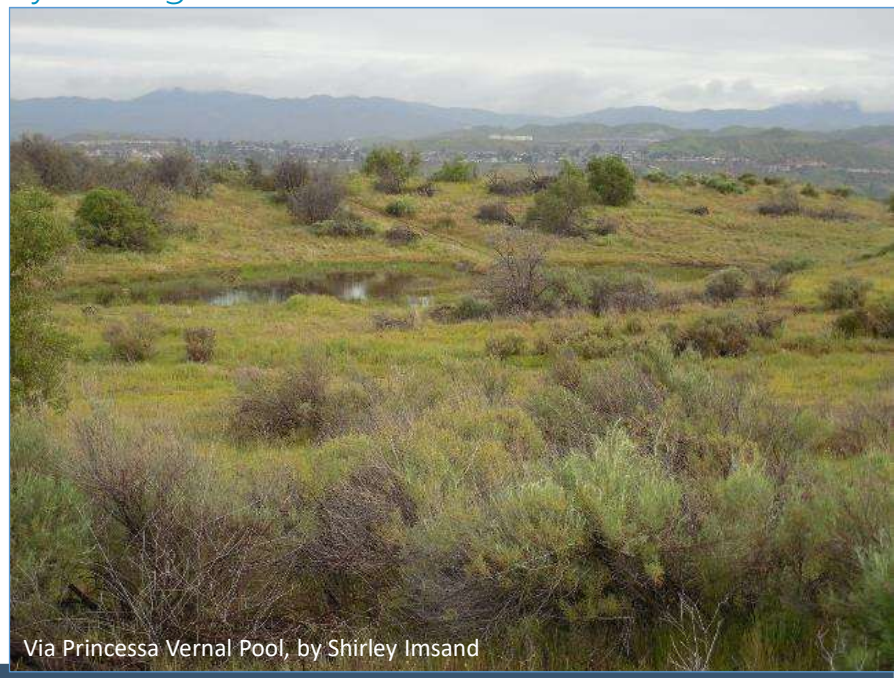
  - Eight Action Items, including:
    - Diverse water supply
    - Local water supply plan
    - Natural buffers to waterbodies
    - Accessible alternative water sources

Goal 5: Thriving ecosystems, habitats, and biodiversity

- Strategy 5B
  Preserve and enhance open space, waterways, and priority ecological areas

  - One Action Item:

    - Preserve priority ecological sites and species


Via Princessa Vernal Pool, by Shirley Imsand

Goal 9: Sustainable production and consumption of resources

- Strategy 9B
  Implement strong water conservation measures

  - Countywide Targets
    - Baseline: **143** GPD in 2017
    - 2025: **115** GPD
    - 2035: **100** GPD
    - 2045: **85** GPD

bewaterwise.com®

CALGreen

Goal 9: Sustainable production and consumption of resources

- Strategy 9B
  Implement strong water conservation measures

  - Four Action Items, including:
    - County-specific implementation plan
    - Net Zero Water Ordinance
    - Building code changes
    - Pilot programs for smart metering

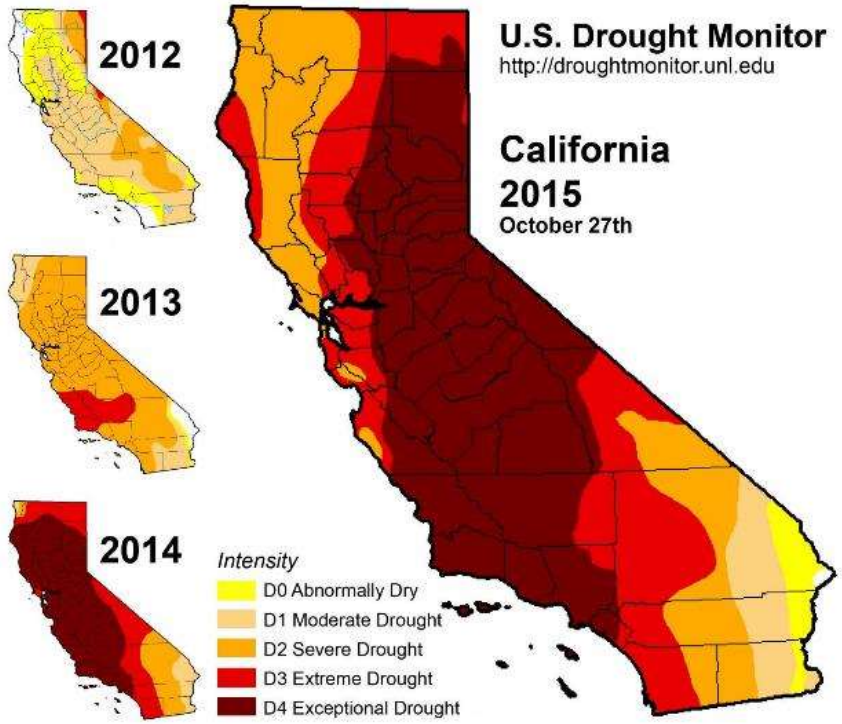
DUDEK

Groundwater Sustainability Plan for the Santa Monica Subbasin

DECEMBER 19, 2019

01 Sustainable Groundwater Management Act (SGMA) Background

- Three bill legislative package passed and signed into law in 2014
- Requires governments and water agencies of high and medium priority groundwater basins to balance pumping and recharge
  - Department of Water Resources (DWR) designates high and medium priority basins
  - Balance must be achieved by 2042
- Empowers local agencies to form Groundwater Sustainability Agencies (GSAs)
  - GSAs are required to adopt Groundwater Sustainability Plans (GSPs)

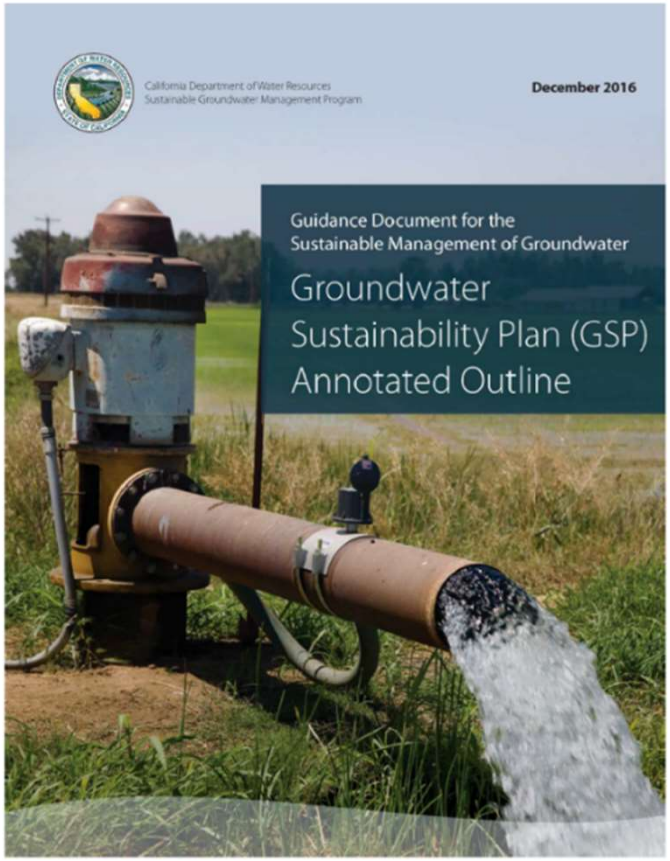


Graphics Credit: University of Nebraska Lincoln

02 What is a Groundwater Sustainability Plan (GSP)?

GSPs are detailed roadmaps for how groundwater basins will ensure long-term sustainable use of groundwater resources.

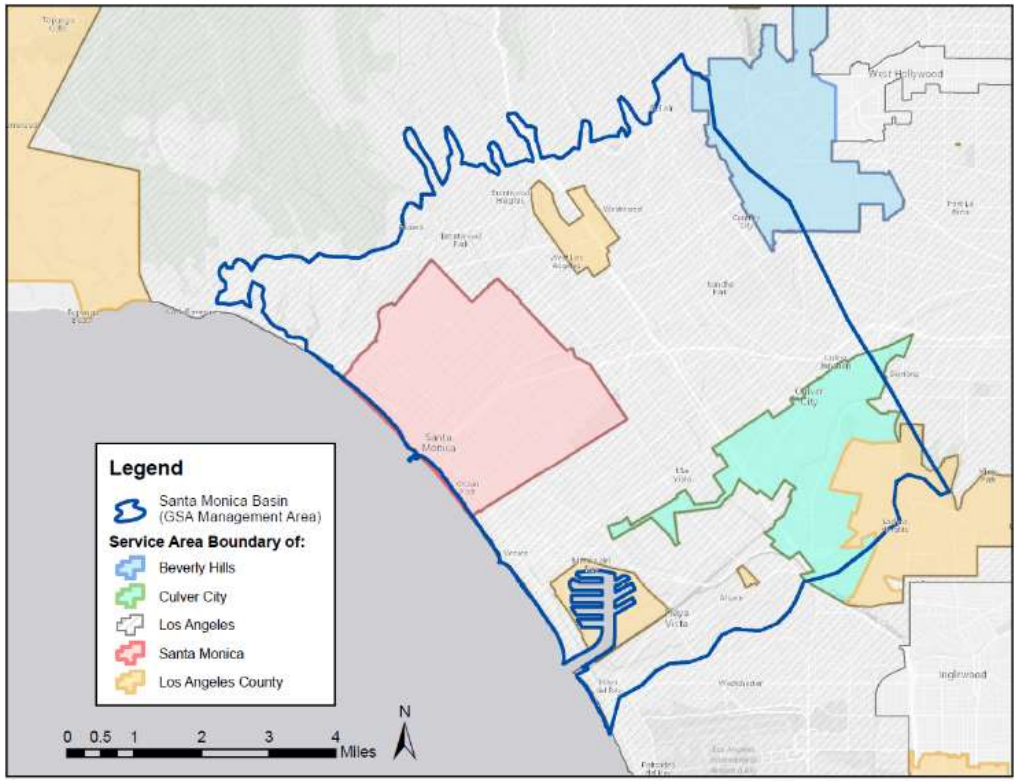
- GSPs are used to:
  - Provide a description of the current technical understanding of the basin and data gaps
  - Estimate the sustainable yield
  - Define the sustainability goal or goals for the basin
  - Define the sustainable management criteria including identifying undesirable results based on the 6 sustainability indicators
  - Identify projects and management actions to achieve the sustainability goal



03 Stakeholder Engagement

GSPs must consider interests of all beneficial uses and users of groundwater.

- Consider effects on stakeholder groups in or around the basin including:
  - Public water systems
  - Local land use planning agencies
  - Private well owners
  - Environmental users
  - Surface water users
  - Federal government
  - California Native American tribes
  - Disadvantaged communities



Santa Monica Groundwater Basin and Overlying Jurisdictional Boundaries

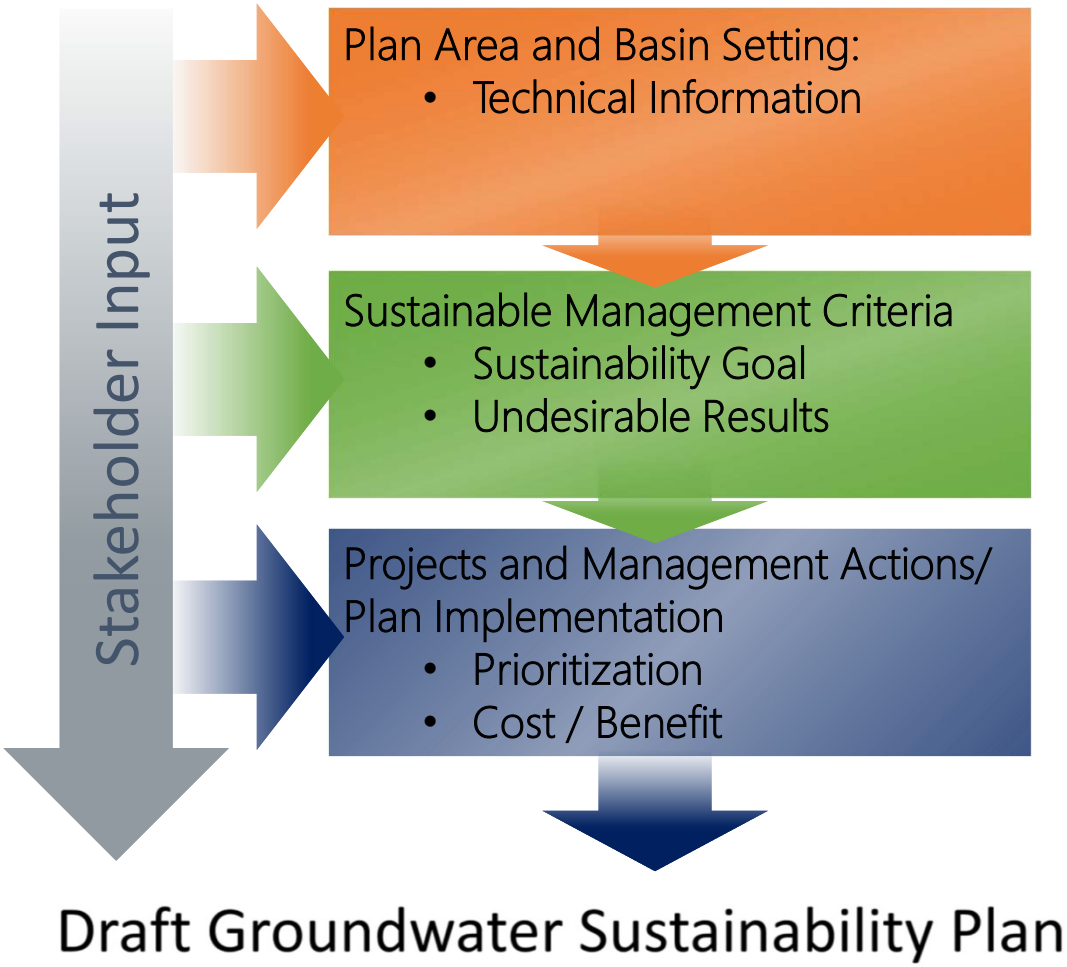
04 Parts of the GSP

Executive Summary

1. Introduction
2. Plan Area and Basin Setting
3. Sustainable Management Criteria
4. Projects and Management Actions to Achieve Sustainability Goal
5. Plan Implementation

Appendices

- Technical Studies and Appendices
- List of Public Meetings
- Groundwater Model Documentation
- Comments and Responses



05 Plan Area and Basin Setting

- Focus on Sustainability Indicators

Groundwater elevation

Groundwater in storage

Groundwater quality

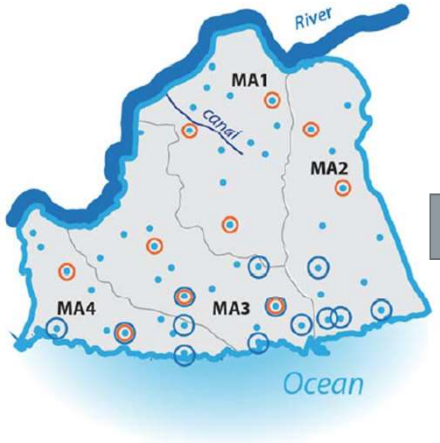
Land Subsidence

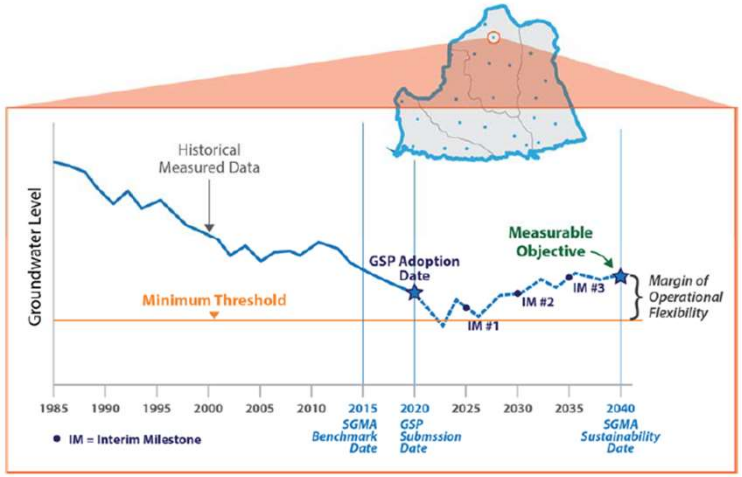
Interconnected surface water and groundwater

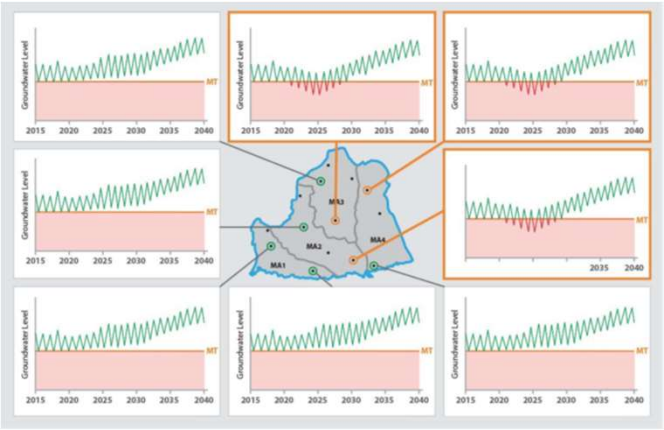
Seawater Intrusion

Santa Monica Subbasin and Selected Features

06 Sustainable Management Criteria



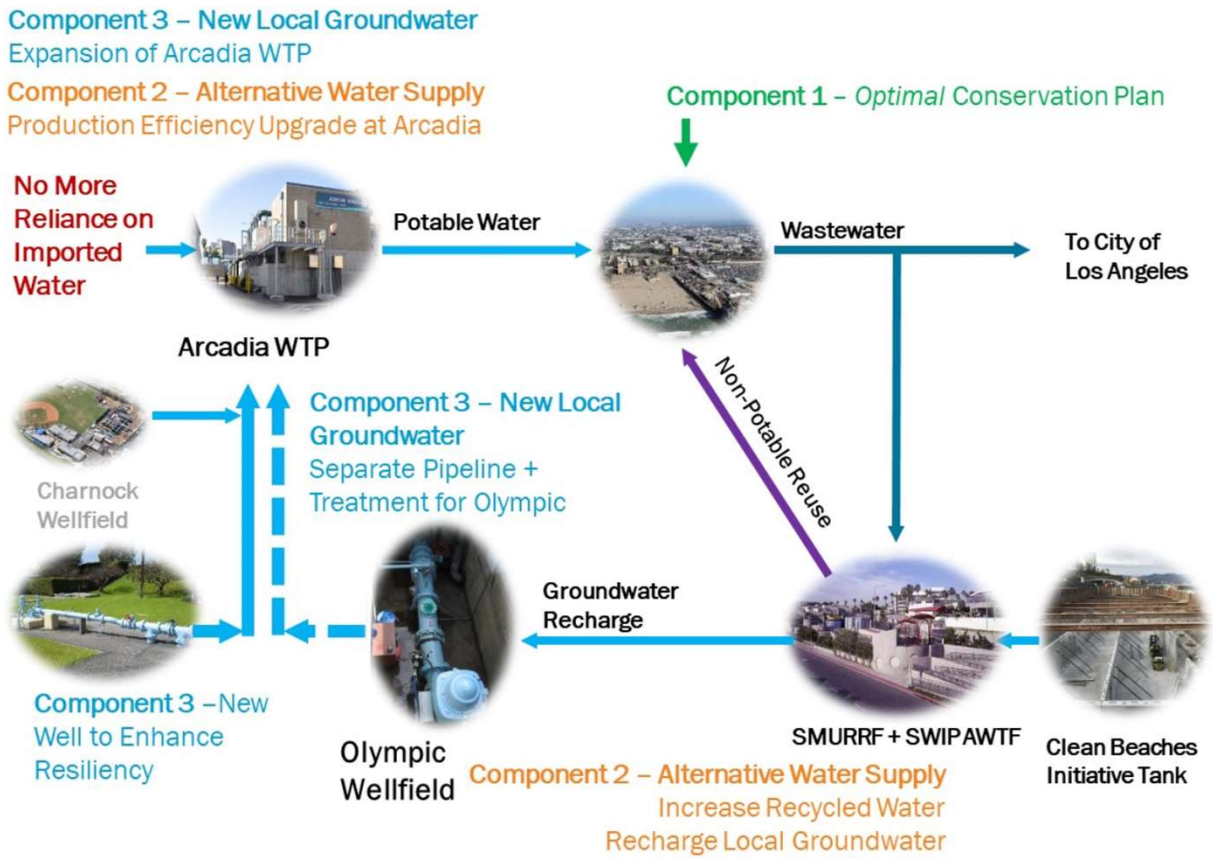




- Determine the Sustainability Goal
- Define Undesirable Results – relative to the 6 sustainability indicators
- Select Minimum Thresholds and Measurable Objectives
  - Can use groundwater elevations as a proxy for other indicators

07 Projects, Management Actions, and Plan Implementation

- Proactive basin management has already helped avoid undesirable results
- Future management plans will be informed by the GSP



08 Where are we in the GSP development process?

DUDEK

How to Stay Engaged:

https://www.santamonica.gov/gsp

Project Contact:

Lisette A. Gold, D.Env.
City of Santa Monica
Lisette.Gold@smgov.net

Questions?

02 NEXT STEPS

Stakeholder Meeting March 19, 2020; 6-8 PM
Veterans Memorial Building
4117 Overland Ave
Culver City, CA 90230

- Open House Format
  - Opportunity for stakeholders to engage on specific topics of interest related to the GSP
  - We're soliciting topic ideas
    - Survey cards can be used to provide topics for the next stakeholder meeting