







Lower Ballona Creek Planning and Feasibility Study

3rd Stakeholder Meeting.

January 23rd, 2019

Contents



Project Overview



Site Assessment



Macro Hydrology Analysis



Outreach and Education



Project Overview

Scope Statement

- Perform an engineering and feasibility study associated with implementing storm-water
 management and augmentation of local water supply. The Project provides the framework for
 implementing storm-water management using green infrastructure including outreach to
 local businesses and adjacent stakeholders along the Ballona Creek. Through the
 development of a Project Assessment and Evaluation Plan (PAEP), benefits will be quantified
 with guidelines to evaluate effectiveness and recommendations on the needed actions to
 obtain the desired results.
- Conduct an engineering feasibility and design study to capture and infiltrate runoff from approximately 15 acres through-the-use-of specific BMPs (such as cisterns), and develop a Project Assessment and Evaluation Plan (PAEP). The PAEP will outlining measurement tools and methods to quantify primary and secondary benefits, including technical guidelines to evaluate the effectiveness of the BMPs. Additionally, the PAEP will include performance measurements for effective monitoring of ambient and pollution reduction to meet set TMDLs limitations in order to improve local water quality. The performance matrix will include recommended actions needed to obtain the desired results. The study will also result in creating a draft access agreement and plan for maintenance, while raising community awareness of water quality issues through stewardship.

Project Goals

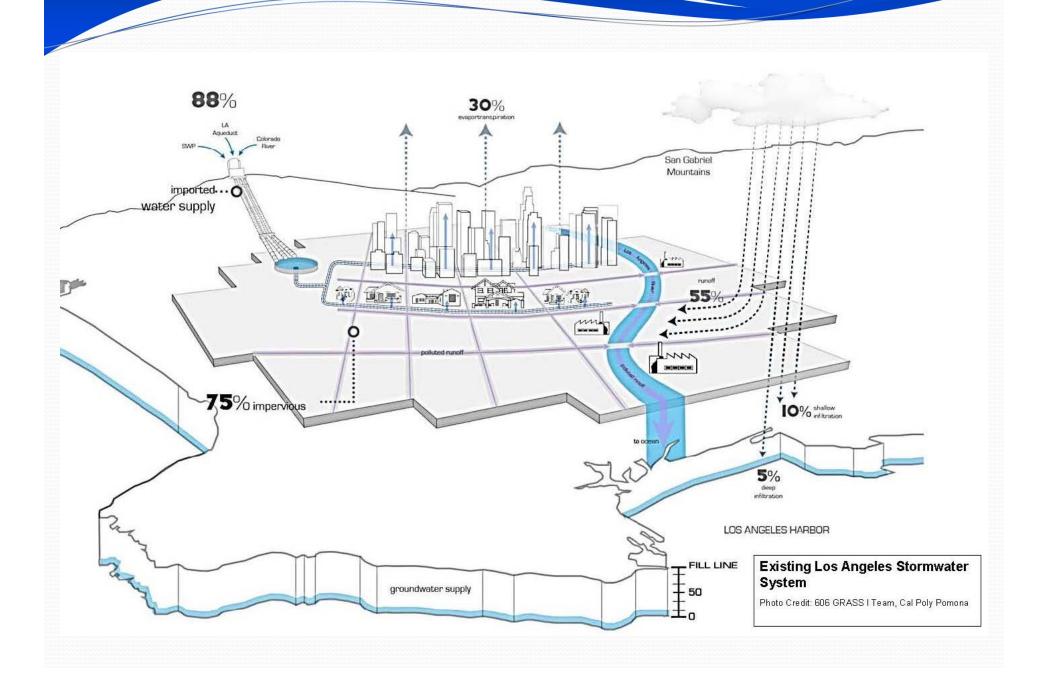
- Capture and infiltrate runoff from approximately 15 acres (assumes water volume not land mass) utilizing green BMP's
- Outreach to local businesses and stakeholders along Ballona Creek
- 3. Improve local water quality
- 4. Raise community awareness of water quality issues
- Develop a PEAP outlining measurement tools and methods to quantify project benefits and plans for maintenance

Ballona Creek

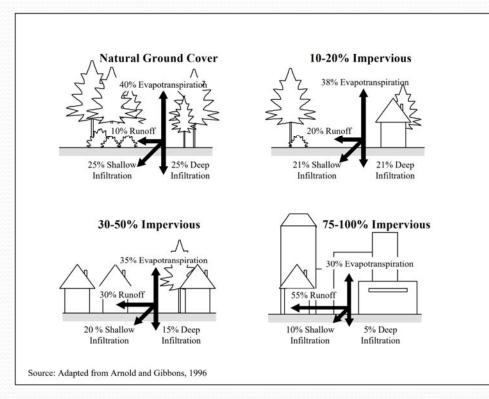
- Ballona Creek drains an area of approximately 130 square miles.
- With more than 1.6 million residents, the Ballona Creek Watershed is highly urbanized.
- As a result, surface and groundwater quality has been degraded, natural hydrologic functions modified, plant and wildlife diversity and movement reduced, wildlife decreased, and water quality tainted in Ballona Creek and Santa Monica Bay.
- While flood protection has traditionally been a high priority within the watershed, efforts to improve water quality, habitat, and open space have not been coordinated across jurisdictions and therefore have been less successful.



Source: dpw.lacounty.gov



Effects of permeability on water quality



Source: https://www3.epa.gov/npdes/pubs/usw b.pdf

Contaminant	Contaminant Sources
Sediment and Floatables	Streets, lawns, driveways, roads, construction activities, atmospheric deposition, drainage channel erosion
Pesticides and Herbicides	Residential lawns and gardens, roadsides, utility right-of-ways, commercial and industrial landscaped areas, soil wash-off
Organic Materials	Residential lawns and gardens, commercial landscaping, animal wastes
Metals	Automobiles, bridges, atmospheric deposition, industrial areas, soil erosion, corroding metal surfaces, combustion processes
Oil and Grease/ Hydrocarbons	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, illicit dumping to storm drains
Bacteria and Viruses	Lawns, roads, leaky sanitary sewer lines, sanitary sewer cross-connections, animal waste, septic systems
Nitrogen and Phosphorus	Lawn fertilizers, atmospheric deposition, automobile exhaust, soil erosion, animal waste, detergents

Types of Water Quality BMPs



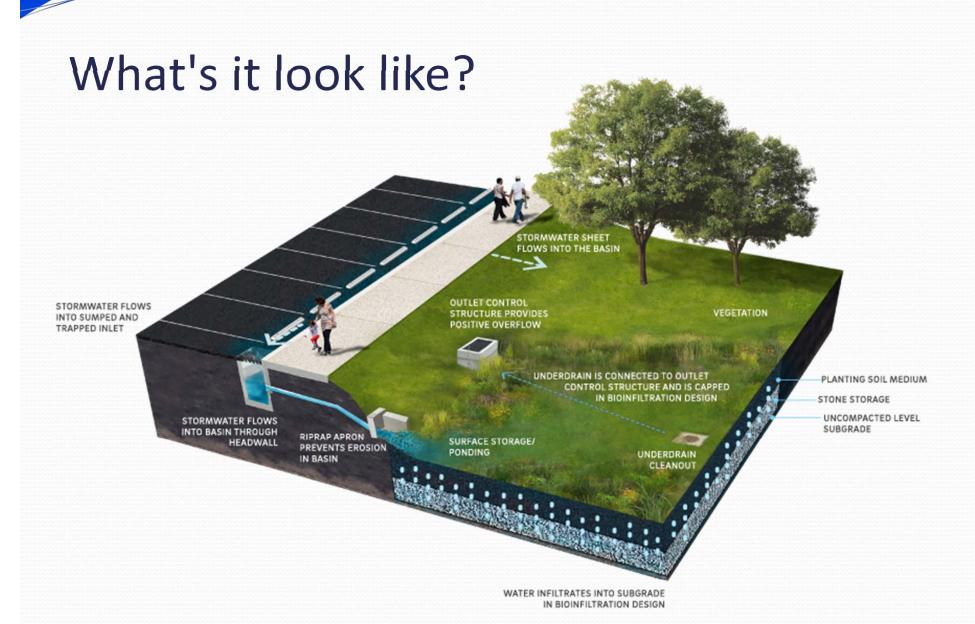








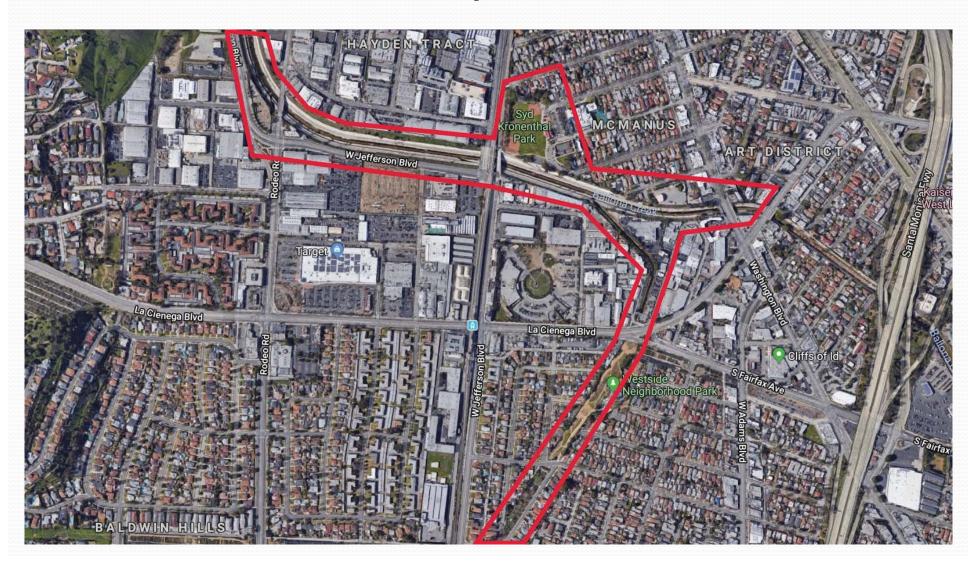






Macro Hydrology Analysis

Study Area



Survey and Base Mapping

A topographical engineering design base map was completed of the Lower Ballona Creek area from Washington Boulevard to Higuera Street

Included Features

Existing monuments

Property

Boundaries

Parcel and property information

Right of way

Jurisdictional boundaries

Known Storm Water Utilities

Survey Method



Aerial Photogrammetry With GPS ground Control

Overlaid on

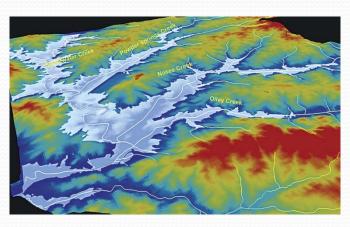


GIS and Public Records Mapping

Engineering and Feasibility Study

Hydrology Analysis

Base maps were analyzed to determine the flow water through the surface and known substructure. A quantitative analysis was done identifying the potential amount of water reclaimable in our study area

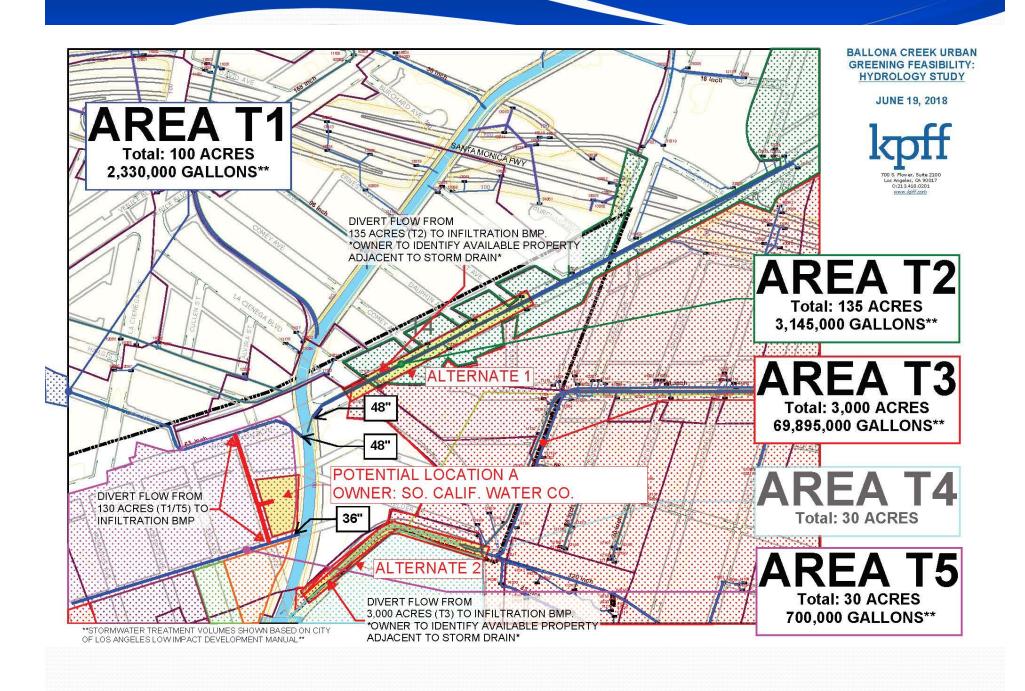


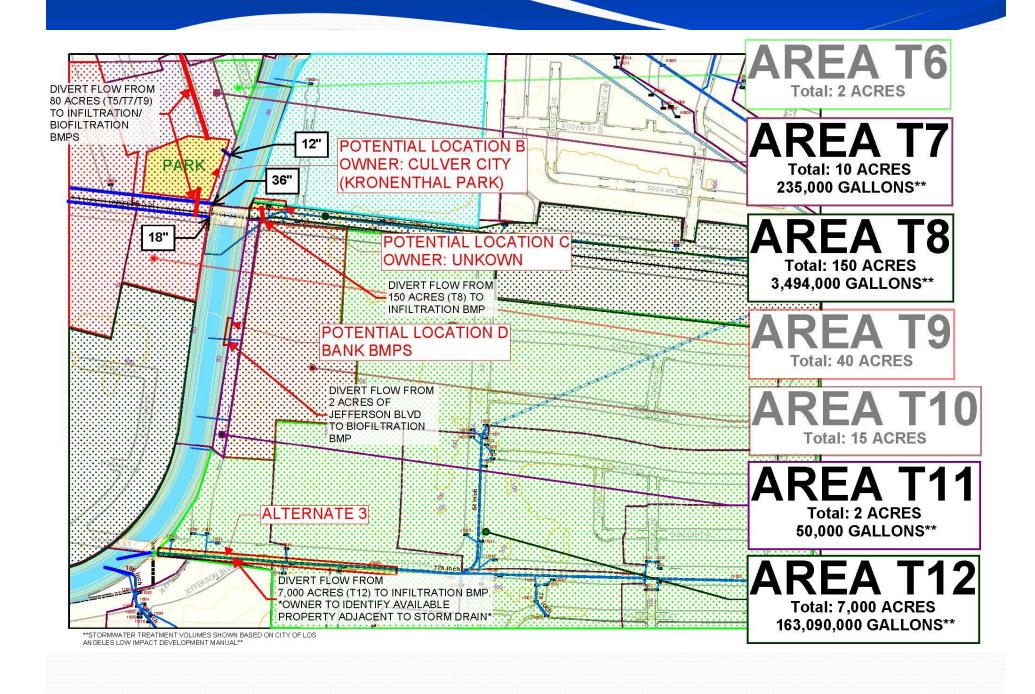


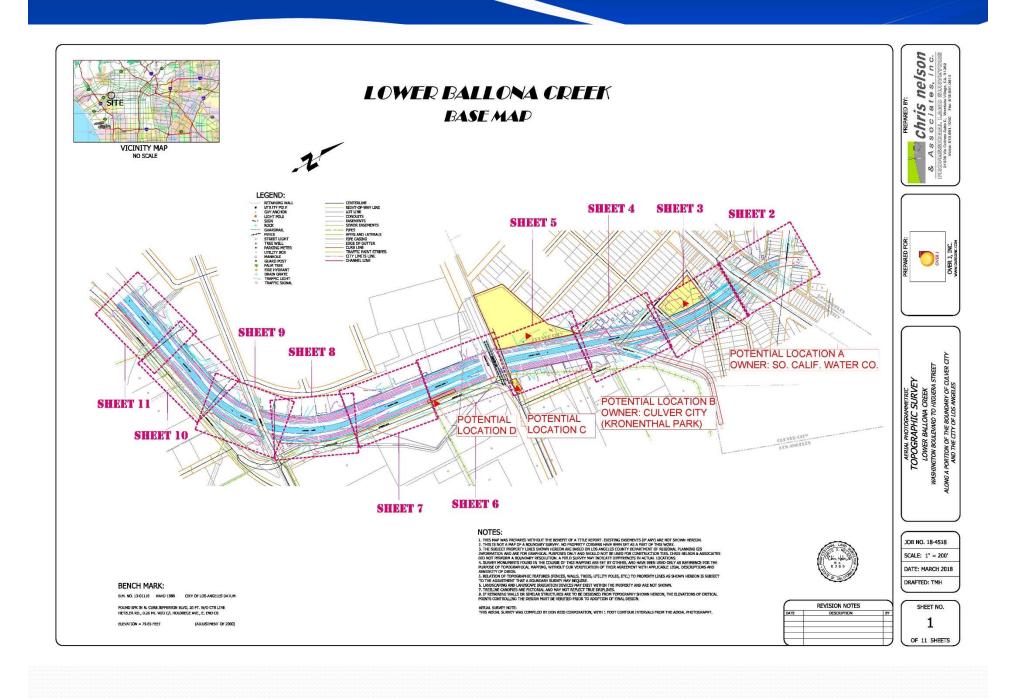
Geotechnical Testing

Upon analyzing base map and hydrology data geotechnical bores will be strategically placed along creek. Depth and test type will depend on data. Locations will be tested for infiltration and percolation testing

The above testing will be analyzed in conjunction with property data, accessibility and available storm water solutions to identify areas for water quality improvement and capture

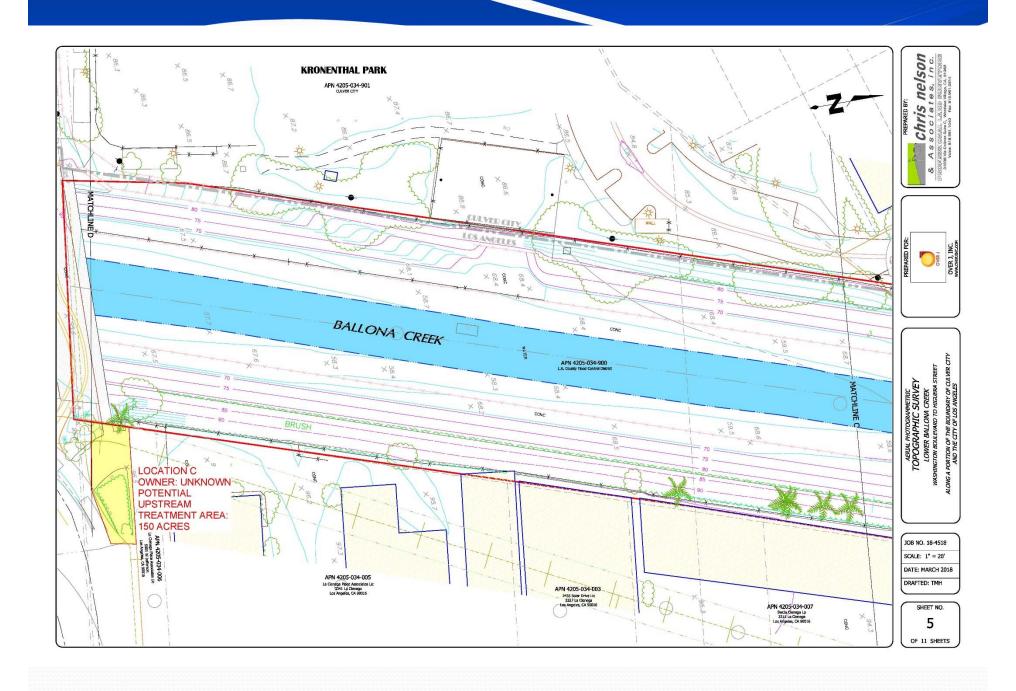


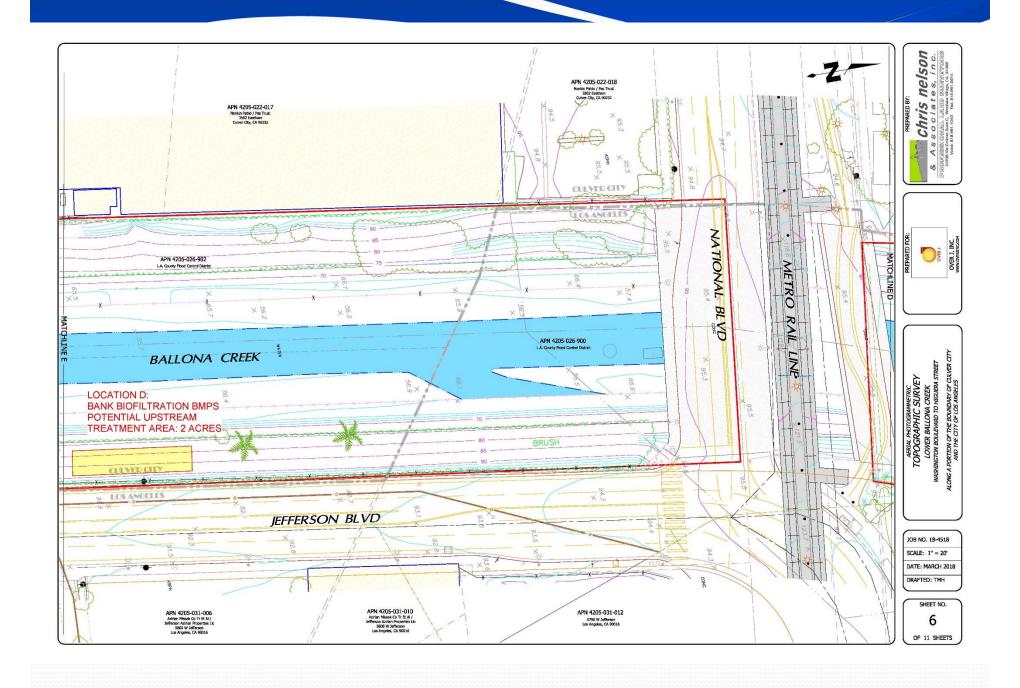


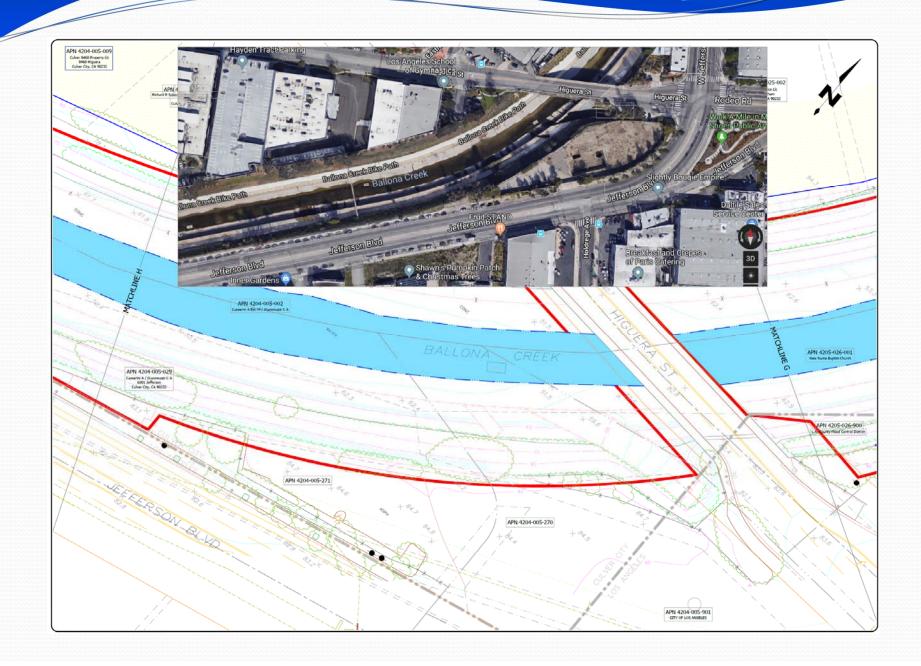


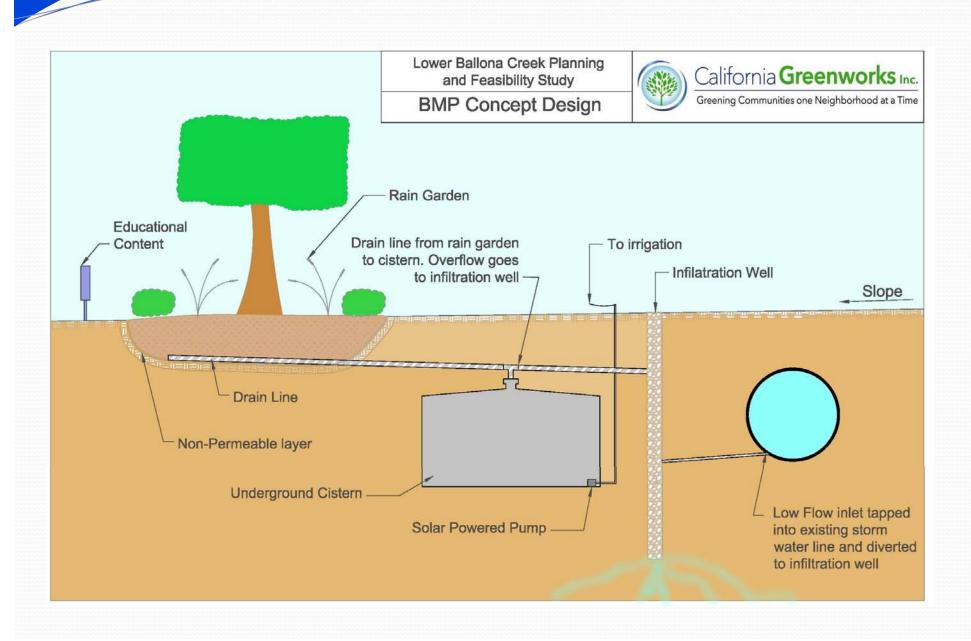












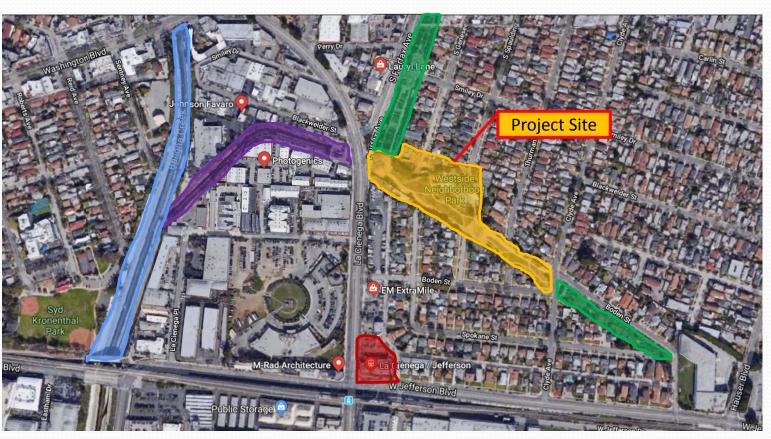


Site Assessment

Site #1: Westside Neighborhood Park

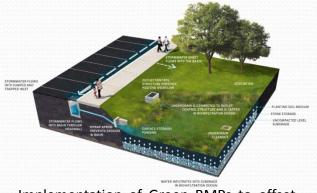


Why Westside Neighborhood Park?



- Large Public Site that can benefit from beautification
- Two Nursery sites which may utilize reclaimed water
- Potential to extend into blackwelder business tract
- Directly connected to Ballona Creek
- Nearby Metro Station to promote site access and popularity
- Surrounding DAC neighborhood can benefit from park activities and can be targeted for education and outreach

Westside Neighborhood Park Potential



Implementation of Green BMPs to offset hundreds of acres of water from Ballona Creek



Potential to extend BMPs and track through blackwelder for employee engagement



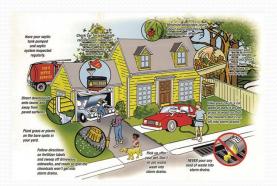
Park can be designed to maximize use in exercise and community activities



Redesign can accommodate pop-up business culture in effort to boost local small business engagement as well as generate park income to offset maintenance costs



Interactive water quality themed Play 'n' Learn area for neighborhood children

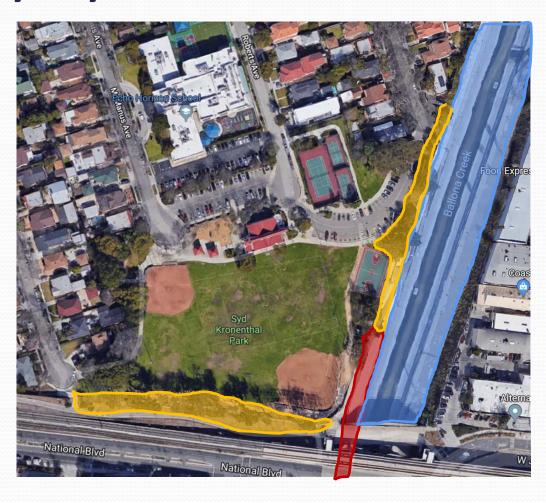


Park Outreach program can work to promote adaptation of BMPs in nearby neighborhood homes and can include car washing programs minimize contributions to runoff pollution

Site #2: Syd Kronenthal Park

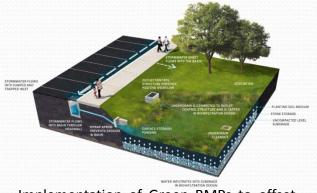


Why Syd Kronenthal Park?



- Public Site that can benefit from beautification
- Future improvement planned at site which can reduce costs if planned with our project
- Directly connected to Ballona Creek
- Connected to bike popular bike path
- Surrounding
 neighborhood can
 benefit from park
 activities and can be
 targeted for
 education and
 outreach

Syd Kronenthal Park Potential



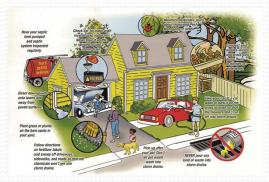
Implementation of Green BMPs to offset up to 80 acres of water from Ballona Creek



Potential to extend benefits to bike path in future



Improvement work can be coordinated with future project to share costs



Park Outreach program can work to promote adaptation of BMPs in nearby neighborhood homes and can include car washing programs minimize contributions to runoff pollution



Interactive water quality themed Play 'n' Learn area for neighborhood children

Working with stakeholders to determine available area for study

What's next?

Pending approval to perform a geotechnical bore on site to determine BMP performance

> Create Landscape Design Concept

> > Perform project estimate and benefit analysis

Feasibility Criteria

- Ultimately feasibility will be assessed on a ROI considering the following variables:
 - Project Cost (C)
 - Maintenance Costs (M)
 - Economic Benefit (E)
 - Water Reclaimed (W)
 - Offset cost of pollutants (P)



ROI = Net Benefit X 100 =
$$\frac{E + W}{C + M - P}$$
 X 100 Investment Cost

All variables to be converted to US dollars

Project Risks



Difficult to get coordinate with private properties. Requires outreach to property owners before permitting of future development or re-development.



Multiple jurisdictional control that will require joint or collaborate efforts to achieve BMPs success



Design of Infiltration
BMPs require a
minimum separation
of 10-feet from
historic ground water
regardless of current
level



Modification of the stormwater facilities can trigger Army Corp of Engineers involvement which can greatly extend project schedule and costs

Mitigations and Efficiencies



Utilization of existing public records of nearby properties as benchmarks for soil analysis can reduce boring costs and frictions of obtaining property owner permission



By standardizing BMPs designs and integrating hydrology analysis with public records, BMPs project costs can be greatly reduced by being incorporated in future development or re-development projects



Increased effort in community outreach can rally support for the project as local residents are educated on the benefits and potential of the design



Increase outreach efforts and seek out opportunities to collaborate with local non profits to boost volunteer hours in effort to reduce project maintenance costs



Outreach and Education

Potential
Impact of
Education
and Outreach



Stakeholder Meeting Events



1st Presentation/Design Workshop April 2018
2nd Presentation/Preliminary Engineering and Feasibility July 2018
3rd Presentation/Draft Landscape Conceptual Plan January 23rd 2019
4th Presentation/Final Planning and Feasibility Study March 2019 (Tentative)

List of Stakeholders

Cities/County

- City of Culver City, Public Works Department
- City of Culver City, Parks and Recreation Department
- City of Los Angeles, Department of Water and Power
- City of Los Angeles, Sanitation Department
- City of Los Angeles, StormWater Management Department
- City of Los Angeles, Public Works Department
- City of Los Angeles, Parks and Recreation Department
- Los Angeles County, Watershed Management, Flood Control District

State and Federal Agencies

- Los Angeles Regional Water Quality Control Board
- Los Angeles Army Corps of Engineers (ACoE)
- Baldwin Hills Conservancy

List of Stakeholders (cont.)

Community and Neighborhood Organizations

- Mid-City Council
- Neighborhood Councils Citizens Coalition
- West Area Neighborhood Council
- Greater Wilshire Council
- Mid-City West Council
- South Robertson Council
- West Adams Council
- West Los Angeles Council

Non-Profit and Academic Organizations

- Ballona Creek Renaissance
- Friends of Ballona Creek
- Property Owners
- Hayden Tract
- Blackwelder Business Tract
- Good Earth Community Garden
- First Image Nursery



Two Public Awareness Workshops

Overview

 The public awareness workshops will be two (2) separate 1-hr seminar on LA stormwater issues. We will host the event in one of the

Agenda

- First topic is why we need Stormwater Management
- Second topic is how these projects are implemented and how the public voices their support (What is a feasibility study, how measure W works, etc.)
- Third topic is what are natural BMP's and how do they work
- Fourth topic is a brief presentation of our project and how it ties all the above together.

Location

Veteran's Community Center

When

March and April of 2019





Outreach Presentations in conjunction with Neighborhoods including Government and Public Agencies

Earthfest LA 2018

- Earthfest was held October 20th, 2018. The event included music, food and informative Kiosks that communicated our project goals and the importance of water conservation in the Los Angeles area.
- Total estimated visitors that attended were: 300+ persons

Movie in the Park 2019 (Westside Neighborhood Park)

- An outdoor movie theatre setup will be held on our proposed project site for the DAC's in the immediate are around. A brief and educative presentation will be held discussing water convercany, one speaker will be supplied by California Greenworks, we will also recruit a federal or city agency to supply a speaker as well. Our presentation will be followed up by a ocean-themed movie that is Rated G. Tentatively scheduled for April of 2019
- Outreach will be needed for Council District 10 to get sponsorship for this event
- Begin process for approval and obtaining CUP if needed immediately after this outreach plan is approved.
- Target audience will be those identified in the next slide.

BMP Workshop (tentative)

- We will work with a nursery to host an outdoor hands-on event where we will
 construct a rain garden. We will target a church, elementary school or community
 center in the surrounding area. We will give a quick presentation on BMPs and their
 roles in LA's stormwater management plan.
- Tentatively setup for June 2019







Survey of Controlled Group

Target: Disadvantaged Communities

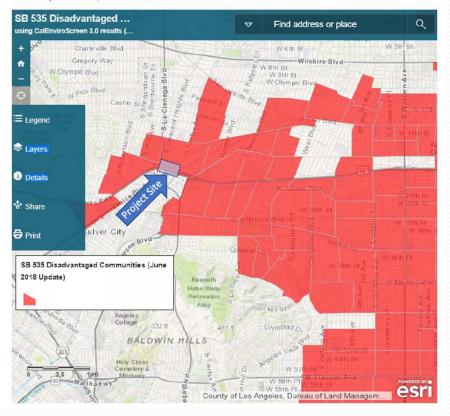
Our target is any disadvantaged community identified on the OEHHA database that is within a 30 minute public transit ride from our project site. Google maps will assist in determining reach perimeter.

Communities will be organized by zip code giving priority to lowest average income from data pulled from the Census Bureau and will include:

- Residents
- Local businesses
- Schools

https://oehha.ca.gov/calenviroscreen/sb535

Click to open this map in a new window



Survey Sample Size

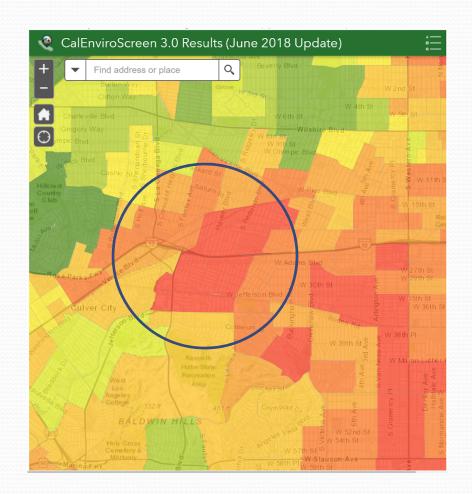
A 2-mile radius was taken from the project site was 158,620 people

Utilizing a confidence level of 95% and margin of error of 1%

9,056 people
Will be targeted for our survey

Survey Objective

- 1. Identify public support for the project
- 2. Increase awareness of stormwater issues
- Collect ideas/requirements for people and local businesses to get involved



Survey Distribution: Residences

Option 1: Social Media

The strategy is to push surveys through social media platforms utilizing in client survey tools and survey monkey. Data from "The 2018 Social Audience Guide" published by Spredfast will be used to assign an age group by social media platform that are most effective. And broken up into two groups:

Current Voters

18 years or older with a heavier influence on people from ages 18 to 49.







Future Voters

13-17 years old with a heavier influence on awareness







Option 2: Student Outreach

Lecturer on stormwater issues will be given by volunteers to schools in DAC's from elementary schools to colleges



Option 3: Advertise on Metro

Since our project is located near a metro station we can utilize advertising on public transit vessels like the metro lines to raise project awareness. Links to project site can be pulled up for further info and options to take surveys or sign up as a volunteer



Survey Distribution: Local Businesses & Public Agencies

Option 1

On foot surveys will be issued to various positive local business within the outreach zone outlined previously.



Option 2

Linkedin and Facebook can be utilized to reach out to local businesses and agencies to take surveys or get involved







Survey Strategy

- The survey's will be promoted on Facebook and will begin with a short film briefly outlining
 the issues with stormwater management in the LA area. We will then introduce the project,
 its goals and what it's potential reclaim will be. Once the video is concluded the viewers will
 be prompted with a survey. This will be handled with Facebook tools. The video will be less
 than 1 minute long to maximize engagement.
- Based on survey turnout, if we are not reaching our goals we will begin an email marketing campaign and which will include a brief executive summary of the project and include link to the video which will be put on YouTube. There will also be a link to a survey which will be managed through "Survey Monkey"
- We will also be issuing our survey questions out at our events and meetings as well. If survey
 goals haven't been met then we will begin distributing surveys through mail.
- A typical survey timeline on Facebook is a 1-week campaign and tends to reach thousands at a time. Timeline to make a video will beginning of February 2019. We would like to show the video at the movie in the park event. Therefore the survey timeline for the residents will likely be occurring in multiple intervals between February and June of 2019.
- Surveys will be split into 2 categories: Residents and Local Business

Residential Survey Questions

- What was your understanding of the storm water issues in LA before the video?
 - Scale of 1-5 with a fill in line and room for them to elaborate if needed
- What was your understanding of storm water issues after the video?
 - Scale of 1-5 with a fill in line and room for them to elaborate if needed
- Do you support the Lower Ballona Creek Planning and Feasibility Study Project?
 - Yes/No with room to elaborate
- Would you like to volunteer to support the project? If so please fill in how you would like ot help (i.e. landscaping, coding/wordpress, outreach, donations, etc.).
 - Yes/No with room to elaborate
 - Link to facebook volunteer page will be available for them to click
- Do you have any ideas you'd like to see implemented or feedback on our efforts?
 - Open box for writing

Local Business Questions

- What was your understanding of the storm water issues in LA before the video?
 - Scale of 1-5 with a fill in line and room for them to elaborate if needed
- What was your understanding of storm water issues after the video?
 - Scale of 1-5 with a fill in line and room for them to elaborate if needed
- Do you support the Lower Ballona Creek Planning and Feasibility Study Project?
 - Yes/No with room to elaborate
- Would you like to volunteer to support the project? If so please fill in how you
 would like ot help (i.e. landscaping, coding/wordpress, outreach, donations, etc.).
 - Yes/No with room to elaborate
 - Link to facebook volunteer page will be available for them to click
- Are you willing to invest in the construction of green BMP infrastructures on your properties? If not what incentives would need to be present to do so?
 - Yes/No with room to elaborate
 - Our project lead contact information will be available on the local business survey only.
- Do you have any ideas you'd like to see implemented or feedback on our efforts?
 - Open box for writing

Quarterly Summary of Volunteer Recruitment

- A Facebook account separate from California Greenworks page will be created as a platform to organize recruited volunteers.
- California green works will begin promoting volunteering opportunities and giving people the opportunity to sign up for an on-call service managed through Facebook.
- We will begin promoting material December 2018 and will start reporting recruitment numbers January 2019 and monthly from that point on.
- To raise interest, awareness and boost volunteer interest we have investigated 3rd party social media marketing services which include the development and distribution of social media content and the management of outreach goals and volunteer reporting
- The social media platform will be setup and ready for tracking by the date of the survey, tentatively set for the first week of February

Outreach Schedule

Ballona Creek Outreach Schedule		2018			2019				2019				2019				2019				2019				2019			
		December				January				February				March				April				May			June			
Outreach Scope	WK.	WK2	WK3	WK4	WK1	WK2	WK3	WK4	WK1	WK2	WK3	WK4	WK1	WK2	WK3	WK4	WK1	WK2	WK3	WK4	WK1	WK2	WK3	WK4	WK1	WK2	WK3	WK4
Stakeholder Meeting							23																Т					
Public Workshop 1										Т								Т										
Public Workshop 2																												
Public Outreach Event: Movie in Park																	Т											
Public Outreach Event: BMP Workshop																								Т				
Social Media Survey Campaign																								Т				



Open Forum



Thank you for coming!





