Las Virgenes Creek Phase III Restoration Feasibility Study

Los Angeles County Public Works

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science | policy | solutions

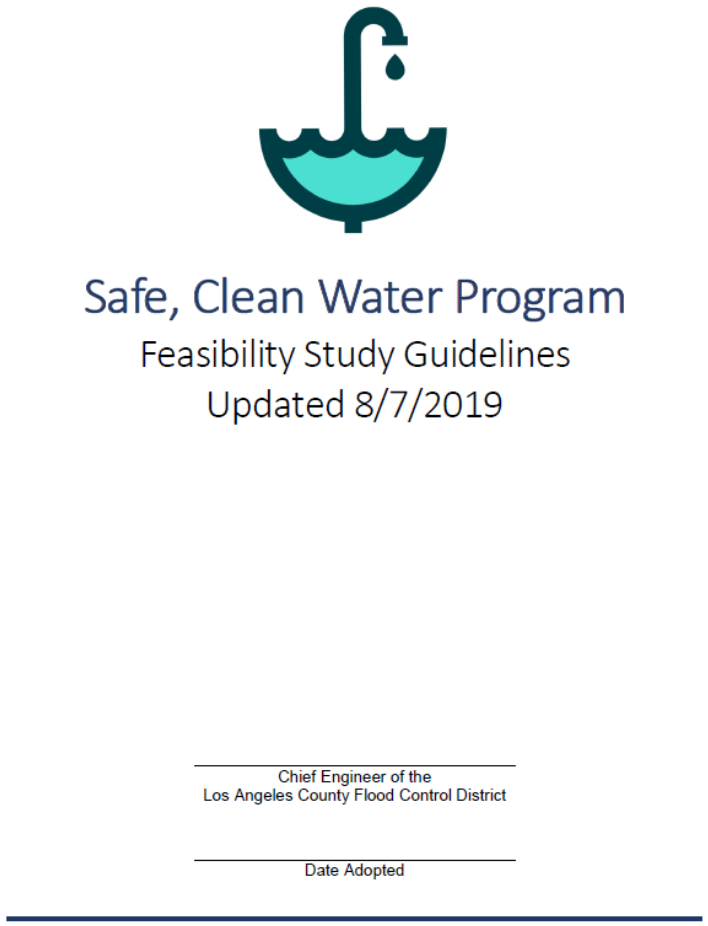
FUSCOE ENGINEERING

Presentation Outline

- Feasibility Study Scope
- Project Background
- Desktop Analysis
- Hydrology Analysis/Erosion Control Design
- Feasibility Study Outcome

Feasibility Study Scope

- 19 requirements to be addressed
  - Preliminary Review
  - Preliminary Analysis
  - Feasibility Analysis
  - Feasibility Study Report



Project Background

- Phase I (2008)
- Phase II (2019)
- Phase III (current)
  - Retrofit ~30 outfalls for erosion protection
  - Restore vegetation/habitat
  - Remove fish barriers
  - Build new trail with educational overlooks

Desktop Analysis

- Background information/documents
  - Limited/incomplete information on as-builts, hydrology/hydraulic data, drainage shed boundaries
- Similar projects
  - Upper Sausal Creek Erosion Control Restoration Project (Oakland, 2018)
    - Did not consider water quality
- SCWP scoring review
  - No water supply benefit → maximum score: 85 points
  - Identify higher priority outfalls

Hydrology Analysis/Erosion Control Design

- 30 outfalls: 10 public, 13 private, 7 unknown
- Drainage shed delineation
- Outfall size: 6-102 inches
- Peak flow (50-year storm) modeling with Hydrocalc
  - 2-1,300 cfs
- Erosion control design
  - Some outfalls may need additional erosion control measures

Water Quality Flow Rate Analysis

- 85th percentile storm
  - 0.0-21.8 cfs
- Initial approach to implement BMPs in stream bed
  - Steep slope in upper creek areas
  - Several larger outfalls/tributary areas located in/near private property
- SCWP scoring review
  - Unable to score for pollutant reduction(>80% pollutant reduction for 30 points)

Section	Score Range	Scoring Standards
A.1 Wet Weather Water Quality Benefits	50 points max	The Project provides water quality benefits
	20 points max	**A.1.1:** For Wet Weather BMPs Only: Water Quality Cost Effectiveness (Cost Effectiveness) = (24-hour BMP Capacity)[1] / (Capital Cost in $Millions) • <0.4 (acre feet capacity / $-Million) = 0 points • 0.4-0.6 (acre feet capacity / $-Million) = 7 points • 0.6-0.8 (acre feet capacity / $-Million) = 11 points • 0.8-1.0 (acre feet capacity / $-Million) = 14 points • >1.0 (acre feet capacity / $-Million) = 20 points [1]Management of the 24-hour event is considered the maximum capacity of a Project for a 24-hour period. For water quality focused projects, this would typically be the 85th percentile design storm capacity. Units are in acre-feet (AF).
- OR -	30 points max	**A.1.2:** For Wet Weather BMPs Only: Water Quality Benefit - Quantify the pollutant reduction (i.e., concentration, load, exceedance day, etc.) for a class of pollutants using a similar analysis as the E/WMP which uses the Watershed Management Modeling System (WMMS). The analysis should be an average percent reduction comparing influent and effluent for the class of pollutant over a ten-year period showing the impact of the Project. Modeling should include the latest performance data to reflect the efficiency of the BMP type. Primary Class of Pollutants • >50% = 15 points • >80%= 20 points (20 Points Max) Second or More Classes of Pollutant • >50% = 5 points • >80%= 10 points (10 Points Max)
A.2 Dry Weather Water Quality Benefits	20 points	**A.2.1:** For Dry Weather BMPs only, projects must be designed to capture, infiltrate, or divert 100% of all tributary dry weather flows.
	20 points max	**A.2.2:** For Dry Weather BMPs Only. Tributary size of the dry weather BMP • <200 Acres = 10 points • >200 Acres = 20 points

Feasibility Study Outcome

- Consultation with Paradigm Environmental
  - Dry weather project may work (40 points)
  - Required 100% dry weather flow capture
  - Project area > 200 acres
- Communication with LA County Public Works
  - Feasibility study was approved as a wet weather project
  - Calabasas would need to resubmit for consideration as a dry weather project