



CITY OF COSTA MESA

77 Fair Drive
Costa Mesa, CA 92626

Agenda Report

File #: 24-245

Meeting Date: 8/6/2024

TITLE:

ACCEPTANCE OF THE STORM DRAIN MASTER DRAINAGE PLAN (SDMDP)

DEPARTMENT: PUBLIC WORKS DEPARTMENT/ENGINEERING DIVISION

PRESENTED BY: RAJA SETHURAMAN, PUBLIC WORKS DIRECTOR

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RECOMMENDATION:

Staff recommends the City Council accept Phase 1 of the Storm Drain Master Drainage Plan (SDMDP) update consisting of the Existing Conditions Assessment Report (ECAR) and the Proposed Drainage & Water Quality Improvements.

BACKGROUND:

In 2006, the City Council amended Costa Mesa Municipal Code Section 15-64 (Title 15, Chapter III) to identify and put into effect a Storm Drain Master Drainage Plan (SDMDP). The 2006 SDMDP was approved by the City Council and analyzed the existing storm drain system throughout the city using a "Rational Method". The detailed analysis aimed to model the effects of 25-year and 100-year design storms on the City's storm drain system. The 2006 SDMPD proposed storm drain upgrades and estimated storm drain improvement costs throughout the City.

On September 15, 2020, the City Council awarded a Professional Services Agreement (PSA) to Q3 Consulting (Q3) to complete an update to the City's SDMDP. Similar to the 2006 SDMDP, the current update is divided into phases for a comprehensive and thorough analysis.

Phase 1 focuses on the hydrologic modeling, planning, design, and maintenance of the City's storm drain system as it operates today and proposes ranked improvements for future upgrades to the City's storm drain system. Phase 1 includes an Existing Conditions Assessment Report (ECAR) and a Proposed Drainage and Water Quality Improvements report. The reports can be found here: [Storm Drain System Master Plan | City of Costa Mesa \(costamesaca.gov\)](https://www.costamesaca.gov/government/departments-and-divisions/public-works/engineering/storm-drain-master-plan)

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Phase 2 of the SDMDP is the City's drainage fee and Finance study update. This update is derived from proposed improvements outlined in Phase 1, current existing parcel land use types, and the City's 2035 land use plan types with updated housing elements. It includes projected costs of upgrading regional flood control facilities, water quality facilities, and implementing storm water quality permit requirements. The Drainage Fee and Finance study is scheduled for completion by early 2025.

Phase 3 of the SDMDP includes the design of the Westside improvement design plans and the design of advanced stormwater monitoring and warning systems. These specific designs are scheduled for completion by the end of 2025.

The first phase of the Storm Drain Master Plan update began with collecting new storm drain system maps and data throughout the City and then using that information to update the City's existing storm drain Geographic Information System (GIS). Q3's team updated the GIS to include drainage projects built since the 2006 SDMPD. With the completion of the updated GIS, a new hydraulic model of the existing condition of the City's current storm drain system could be developed. The computer model was generated with the latest storm drain analysis tools and storm drain system modeling software to identify and rank drainage "hotspots" throughout the City. The analysis focused on areas with the highest depth of ponding during a modeled 25-year design storm on major thoroughfares and roads with the highest potential impact on emergency services and essential facilities. The Existing Conditions Assessment Report (ECAR) provides the commentary, evaluation, and analysis of the existing storm drain system models and identifies and ranks stormwater drainage hotspots throughout the City.

Once staff reviewed and tentatively approved the ECAR, the next step involved developing the Proposed Drainage and Water Quality Improvements and the Storm Water Alternatives Improvement Maps (SWAIM). The stormwater alternative maps propose to upgrade or expand existing City facilities to accommodate designed stormwater flows. The drainage projects being proposed included pipe rehabilitation technologies, replacing sections of storm drain pipe, adding water quality features, and installing Best Management Practices (BMPs), such as infiltration galleries, diversion systems, capture and re-use, bio-filtration, detention/retention facilities, and proprietary capture and treatment systems. The proposed drainage improvements throughout the City will serve as the basis for the City's 20-year Stormwater Capital Improvement Program (CIP). They will be the basis for future drainage fees that will be developed and proposed in the next phase of the SDMDP Update.

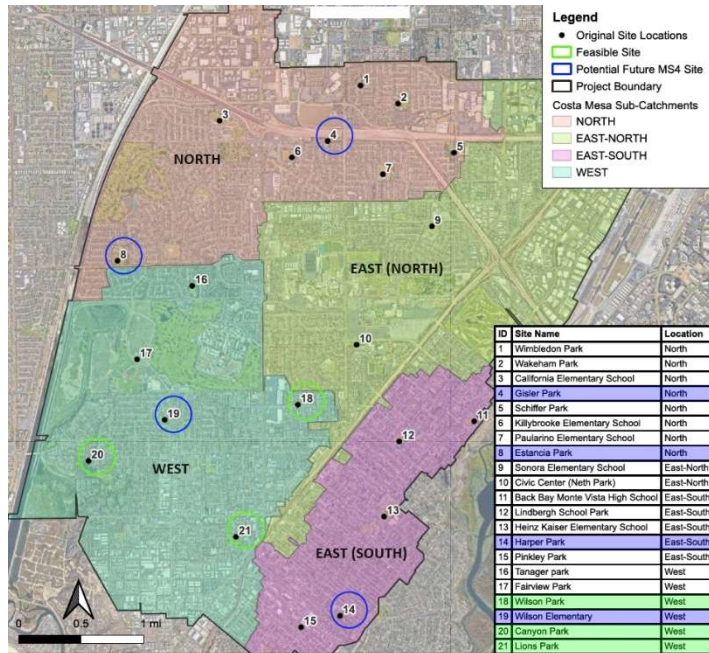
ANALYSIS:

Two (2) community outreach meetings were held to review the progress of the SDMDP update with community stakeholders and to elicit feedback from the community.

The first community meeting was held on June 16, 2022, where Q3 and City staff presented the Existing Conditions Assessment Report (ECAR) to the community. Residents and local business owners were encouraged to review the ECAR report, present questions, and provide feedback. Q3 discussed and presented the preliminary priority ranking analysis at this meeting, which was then used to focus on those locations where stormwater alternatives are most justified.

The Storm Water Alternative Improvement Maps (SWAIM), which are part of the Proposed Drainage & Water Quality Improvements report, were presented and reviewed at the second community meeting scheduled on April 26, 2023. Based on the results of the ECAR, the purpose of this part of the drainage study was to evaluate the city drainage infrastructure using a more advanced stormwater modeling software and provide an alternative in identifying more economically feasible flood control solutions than proposed in the previous 2006 SDMDP.

The City of Costa Mesa has two main watersheds. The Santa Ana River watershed is associated with the City's west side, and the Newport Bay watershed is related to the City's east side. In order to manage the large size of the City and these watersheds, the City is divided into four (4) areas of analysis, as shown below:



Each area has its own set of alternative improvement maps and proposed stormwater system upgrades that improve upon the existing storm drain systems. The SWAIM also includes cost estimates for each area's proposed storm drain improvements. Additionally, the proposed drainage and water quality report also provides an estimated cost of maintaining/implementing water quality measures and an estimated cost of replacing aging corrugated metal pipes (CMP) throughout the City. A summary of the proposed storm drain improvement costs is listed below:

Location	Proposed Facilities		
	Storm Drain Flood Control	Water Quality	CMP Replacement
West (W)	\$32,760,000		
North (N)	\$10,885,000		
East (North) (En)	\$7,750,000		
East (South) (Es)	\$41,180,000		
Total	\$92,575,000	\$12,540,000	\$7,589,000
TOTAL STORM DRAIN IMPROVEMENTS:		\$112,704,000	

Many different storm drain systems were reviewed for improvement as part of the Storm Drain Master Drainage Plan update. Below is a location summary, by area, of the final Storm Drain Improvement locations:

West (W):

- W1 Fairview Park and its drainage area tributary to Canyon Park
- W2 American Ave. tributary to Canyon Park
- W3 Monrovia Ave. and National Ave.
- W4 Pomona Ave. and West 17th St.
- W5 West 16th St.
- W6 Harbor Blvd. at Victoria St.
- W7 West 19th St. tributary to Banning Ranch
- W8 West 18th St. tributary to Banning Ranch
- W9 Maple Ave. and Miner St., neighborhood South of Costa Mesa Golf Course
- W10 Wilson St. and Joann St.
- W11 Placentia Ave. near Fairview Park

North (N):

- N1 Harbor Blvd. North of Baker St.
- N2 Watson Ave.
- N3 Yukon Ave.
- N4 Salinas Ave. and Tulare Dr.
- N5 Gisler Ave. at the end of Iowa St.
- N6 Gisler Ave. East of Iowa St.
- N7 Iowa St. near New York Ave.
- N8 Mesa Verde Dr. West near Capri Ln.
- N9 Europa Dr. and Kornat Dr.

East (North) [En]:

- En1 Fordham Dr.
- En2 Sonora Rd. and La Salle Ave.
- En3 Drake Ave., North of Sonora Rd.

East (South) [Es]:

- Es1 Santa Ana Ave. and local streets towards Cherry Lake
- Es2 Westminster Ave. to 21st St.
- Es3 Orange Ave. to systems tributary to Cherry Lake
- Es4 21st St. at Newport Blvd. and Wilson St.
- Es5 Santa Ana Ave. and University Dr.
- Es6 East 20th St. and Costa Mesa St.
- Es7 East 18th St. at Rogers Pl. and Westminster Ave.

The proposed improvements and associated costs in the SDMDP update will form the basis of the upcoming drainage fee study that will investigate funding opportunities (e.g., grants, fee adjustments, etc.) and financing of future storm drain and water quality upgrades throughout the City.

Staff is recommending that the City Council accept Phase 1 of the SDMDP update.

ALTERNATIVES:

This item is administrative in nature, and there are no alternatives to be considered.

FISCAL REVIEW:

Phase 1 of the Storm Drain Master Plan has no direct fiscal impact to the City. It examines the existing condition of the City's storm drains and establishes a prioritization plan that estimates costs to improve the highest priority storm drains, citywide.

Phase 2 of the SDMDP will help determine the amount the City can collect from drainage fees for new development's "fair share" portion of the proposed citywide storm drain improvements. A finance study consultant will base its calculated drainage fees on a percentage of the proposed construction costs that represents new development's "fair share" of proposed citywide storm drain improvements.

Financing the Storm Drain Improvements identified in the phase 1 of the Storm Drain Master Plan update is part of the next phase of work. A portion of proposed storm drain improvements will be funded by new drainage fees. Grant funds, state and federal funds and capital improvement funds may also be used in the future implementation of the improvements listed in phase 1 of the Storm Drain Master Drainage Plan update.

LEGAL REVIEW:

The City Attorney's Office has reviewed this agenda report and approves it as to form.

CITY COUNCIL GOALS AND PRIORITIES:

This project works toward achieving the following City Council goals:

- Maintain and Enhance the City's Facilities, Equipment and Technology
- Strengthen the Public's Safety and Improve the Quality of Life

CONCLUSION:

Staff recommends the City Council accept Phase 1 of the Storm Drain Master Drainage Plan (SDMDP) update consisting of the Existing Conditions Assessment Report (ECAR) and the Proposed Drainage & Water Quality Improvements.