

Rainfall Facts



The City's drainage system is designed to accommodate a 10-year return period rainfall event.



A return period is the probability of a rainfall event occurring in a given year. For example, the probability of a 10-year return period rainfall event occurring in a given year is 10% or 1 divided by 10. The probability of a 50-year return period rainfall event occurring in a given year is 2% or 1 divided by 50.

It is more likely for a smaller return period rainfall event to occur than a larger return period rainfall event. Smaller return period rainfall events also produce less intense rainfall than larger return period rainfall events.

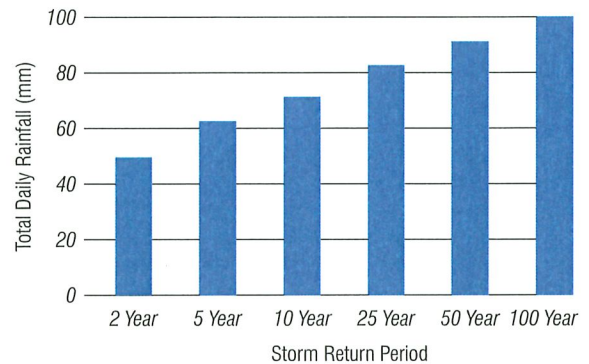


Over the last 20 years, the average intensity of rainfall events have increased by approximately 15%. This is consistent with predicted climate change impacts on local weather patterns and reinforces the need for the City's continued flood protection upgrade program.

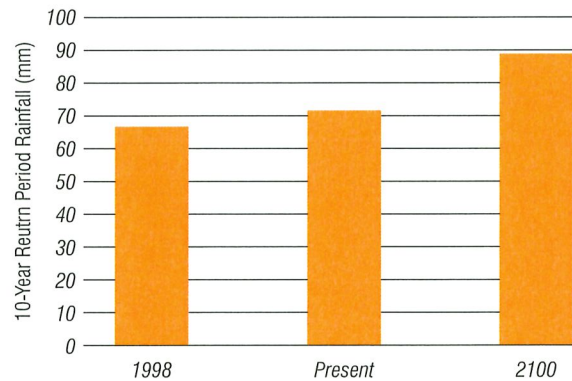


Since 2005, the total capacity of the City's drainage pump stations has increased by 29% to its current level of approximately 90 m³/s (1.4 million US GPM).

Total Daily Rainfall for Different Storms



Historical and Projected Rainfall in Richmond



Diking Facts



Richmond's robust diking network is built to withstand a 500-year return period flooding event.



Current climate change science estimates that sea level will rise approximately 1.0 m by the year 2100 and 0.2 m of land sinking/subsidence is forecasted over that same time period.



The City's Flood Protection Management Strategy and Dike Master Plans are our guiding framework for continual upgrades and improvements to address climate change induced sea level rise.



The City is accelerating the dike upgrade program over the next 50 years to provide additional flood resilience for the City by raising dikes well in advance of current sea level rise projections.