

## The Impact on Runoff Behavior Due to the Establishment of Photo-Voltaic Facilities by Geoteva Environmental Consultants

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One of the unknown environmental changes caused by the establishment of Photo-voltaic (PV) facilities is the influence of the facility on peak flows and volume of runoff waters during extreme rain events. On the one hand, the panels concentrate the flow of water, increasing the size and intensity of drops of water at their points of impact on the ground. On the other hand, the area below the panels is left in a mostly natural state without any significant disturbances, available to infiltration of water into the ground.

PV facilities are mostly located in agricultural fields and open spaces sized 100-1000 dunam. As such, importance is placed on studying the properties of drainage and erosion on the fields situated adjacent to the PV site as well as their contribution to the absorption of peak flows in the nearby streams in the local watershed.

To further explore this phenomena, Geo Teva Environmental Consultants and Yamma Hydrometric Solutions built a Hydrometric Monitoring Station at the Ashalim PV site, belonging to EDF-RE. This site will monitor the flow of runoff from the drainage basin in the 50-dunum PV facility throughout the project site.

For this project, an artificial channel was built to funnel the flow of water through a "AquaLabo AV1500" sampling system, utilizing an Ultrasonic Sensor (a product of Ayyeka Technologies) to measure flow levels and rain quantities. This monitoring station will enable the assessment of the impact of the PV facility on the properties and behavior of runoff waters throughout the project site.

