In a radical move, the Delhi Jal Board (DJB) is considering eight projects for conservation of rainwater and groundwater recharge, including one that involves storing excess water in underground aquifers, to address the water shortage in the capital. The water stored can be extracted during the lean season by using a borewell.

The project called Aquifer Storage and Recharge (ASR) wells, which is currently not present in Delhi, and other seven plans were submitted to the DJB as part of a feasibility study done by WAPCOS, a consultancy under the central government’s Ministry of Jal Shakti.

Delhi has a water demand of 1,200 MGD (million gallons per day), but the DJB treats about 930 MGD, leaving the city with a shortage of 22.5% or 270 MGD of water. This is mainly due to unavailability of raw water, according to the DJB.

“This [water conservation] is a priority area for the Jal board. We are taking all measures possible in Delhi to utilise the rainwater and the WAPCOS report is an important step in that direction,” DJB CEO Nikhil Kumar told The Hindu.

On October 30, officials of the DJB had a meeting with WAPCOS about the projects. “We asked them to submit a phase-wise plan to implement the project,” a DJB official, who is privy to the development, said.

**ASR wells**

An aquifer is a water-bearing zone and under the project, excess water will be stored in aquifers, instead of tanks, through a well. The water can be extracted using the same well or a different one during lean period.

“Water is to be injected during wet periods [monsoon] and it would displace the naturally present water in the aquifer occupying a volume around the well,” a document about the project read.

WAPCOS had told the DJB that pilot ASR demonstration projects need to be carried out by harvesting excess water from the Yamuna, urban storm water runoff or
treated water. “The raw water is to be collected in tanks and then treated by slow and rapid sand filter,” the document said about the process to be followed before injecting the water into the aquifer.

“There was a meeting on November 1 with different wings of the DJB where it was discussed that we look into the use of existing borewells in our Okhla water treatment plant for the project. We are still working on the finer details,” the official said.

WAPCOS had submitted a draft feasibility study in May and will complete the study by November 30. According to the document, WAPCOS has proposed 80 such ASR wells in different parts of the city.

**Rainwater harvesting**

Another project submitted by WAPCOS is recharging groundwater using modular rainwater harvesting tanks, which will be installed underground along 1,209 city road stretches and selected flyovers.

The tanks would collect runoff water, which otherwise flows into the drains. The tanks would purify the water before it recharges the groundwater table. “The on-the-site installation of detention system is both cost-effective and a durable solution for preventing urban flood risks,” the document said.

The other projects include rainwater harvesting in parks, schools, and sports complexes, and creation of check dams among others.

According to WAPCOS, the pilot projects could be started by January 2020 and they can become operational by June 2021. The total cost of the eight projects would be ₹700.4 crore.

“We are looking to implement some of the projects before the next monsoon,” the CEO added.