

# Surface Water Production Control System Using PLC (Programmable Logic Control)



## Abstract



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Princess Chulabhorn Science School Buriram has a number of students. Teachers and personnel caring for students total 858 people. The school has a problem of insufficient public water supply for use within the school. Due to being located at the far end of the service area, the expansion of the service area to local communities or other agencies has resulted in an insufficient water supply for users. To ensure that students and staff have enough water and to create a comprehensive control system, a PLC (Programmable Logic Controller) has been chosen. This is to control various devices that use electricity as a power source and require relatively high operating power.

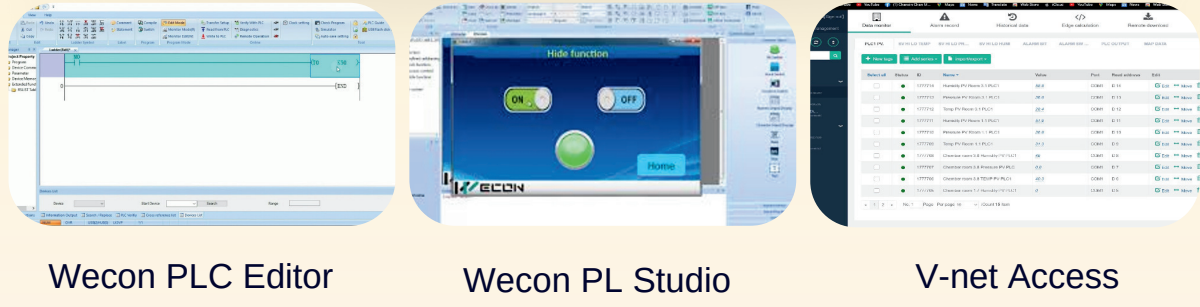
## Origin and importance



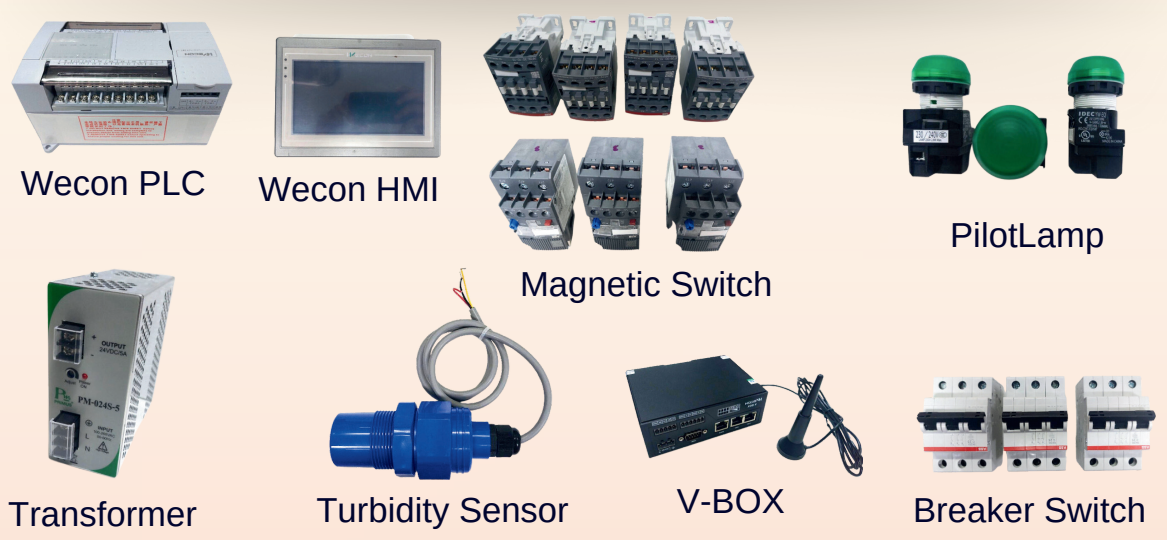
## Objective

- To develop a surface water production control system using PLC (Programmable Logic Control) and effectively report the system's performance through an HMI (Human-Machine Interface) display.
- To ensure that the school has an adequate water supply that meets the Provincial Waterworks Authority's standards for surface water production.

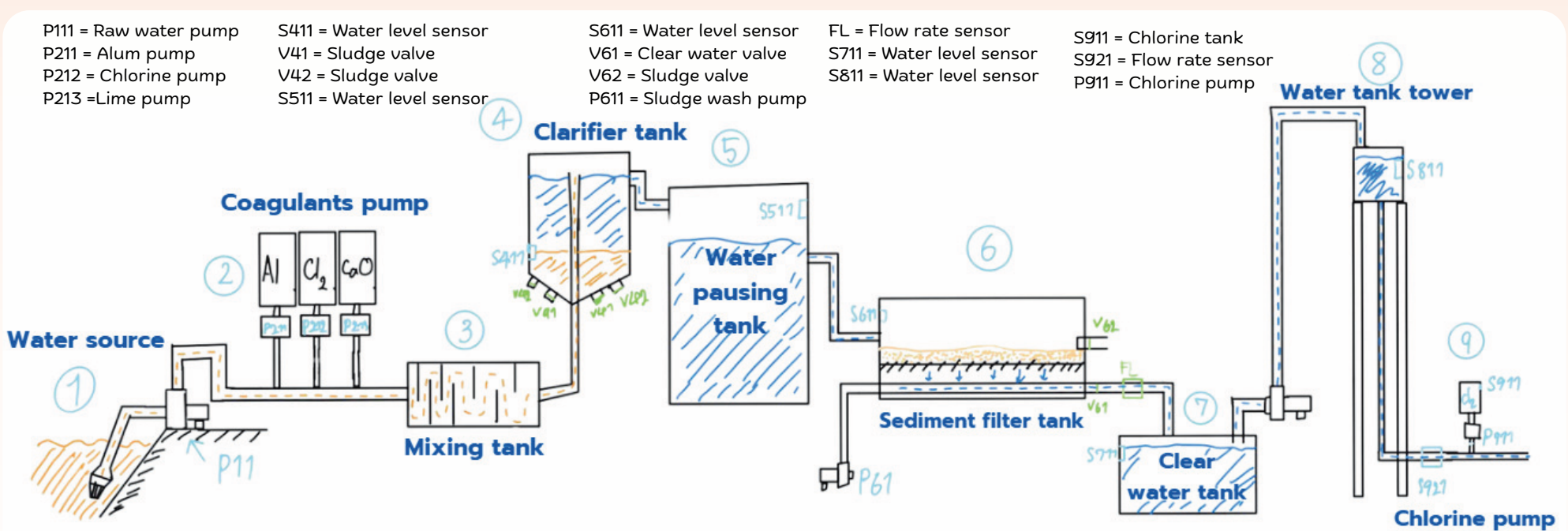
## Software



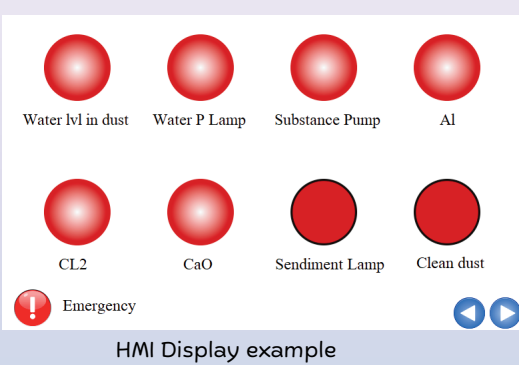
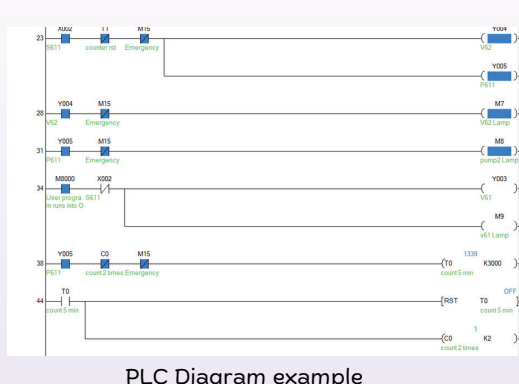
## Hardware



## Diagram showing work



## Result



Model

## Test results

The operation of the PLC is stable and can be customized according to the user's needs. The HMI display shows the system's status accurately and comprehensively, allowing users to easily monitor and control the system through the HMI interface. The system is capable of producing a sufficient water supply for school use, and the quality of the produced water meets the required standards.

## Reference

Flutech Co., Ltd. (2024). What is a PLC or Programmable Logic Controller? Retrieved May 10, 2024, from <https://flutech.co.th/what-is-a-plc-or-programmable-logic-controller/>  
 Primus. (2024). What is PLC+HMI? Retrieved May 10, 2024, from <https://www.primusthai.com/primus/Knowledge/info?ID=203>