1. **Optimum Hydraulic Design for Inverted Siphons**.

**Abstract**

In this research, optimum hydraulic design for siphon has been studied depending on the method of optimization **(Modified Hooke and Jeeves)** with some modifications. Some modifications on this method have done. These modifications are: 1- Modification on the assumed initials base points 2- Modification on the value of step length 3- Modification on the value of the reduced step length at each trial. The siphon shapes that used in this study are pipe, square, and rectangular. The materials that used are concrete and steel for designing inverted siphon. A computer program depending on the method of (**Modified Hooke and Jeeves)** has written for optimum hydraulic design of inverted siphon structure with **"Quick- Basic"** language. Many examples solved by using this program to make insure the accuracy of it