Appendix (A):

Microcontroller code (Bascom-AVR language)

$regfile = "m32def.dat"

$crystal = 8000000

Baud = 19200

Config Porta = Input

Config Portb = Output

Config Portc = Output

Config Timer1 = Timer, Prescale = 1

Config Int0 = Low Level

Enable Timer1

Enable Interrupts

Enable Int0

On Int0 Int0_int

On Ovf1 Ccc

Dim A As Byte

Dim B As Byte

Dim X As Byte

Dim Y As Byte

Start Timer1

Mm:

GoTo Mm

End
Ccc:
Stop Timer1
A = Pina
Portb = Not A
Select Case A
Case 248:
  B = 1
  Print "Water Level 3"
  Print "Pump Station Off"
  Waitms 50
Case 254:
  Print " Water Level 1"
  Waitms 50
Case 252:
  Print "Water Level 2"
  Waitms 50
Case 255:
  B = 0
  Print "Water Level 0"
  Print "Pump Station On"
  Waitms 50
Case 247:
  B = 2
Print "Light On"
Waitms 50
Case 246:
B = 2
Print "Light On"
Waitms 50
Case 244:
B = 2
Print "Light On"
Waitms 50
Case 240:
B = 2
Print "Light On"
Waitms 50
Case 231:
B = 2
Print "Light On"
Waitms 50
Case 230:
B = 2
Print "Light On"
Waitms 50
Case 228:
B = 2
Print "Light On"
Waitms 50
Case 224:
B = 2
Print "Light On"
Waitms 50
End Select
Portc = B
Start Timer1
Return
Int0_int:
Portc = 0
Portb = 3
Print "Light Off"
Return