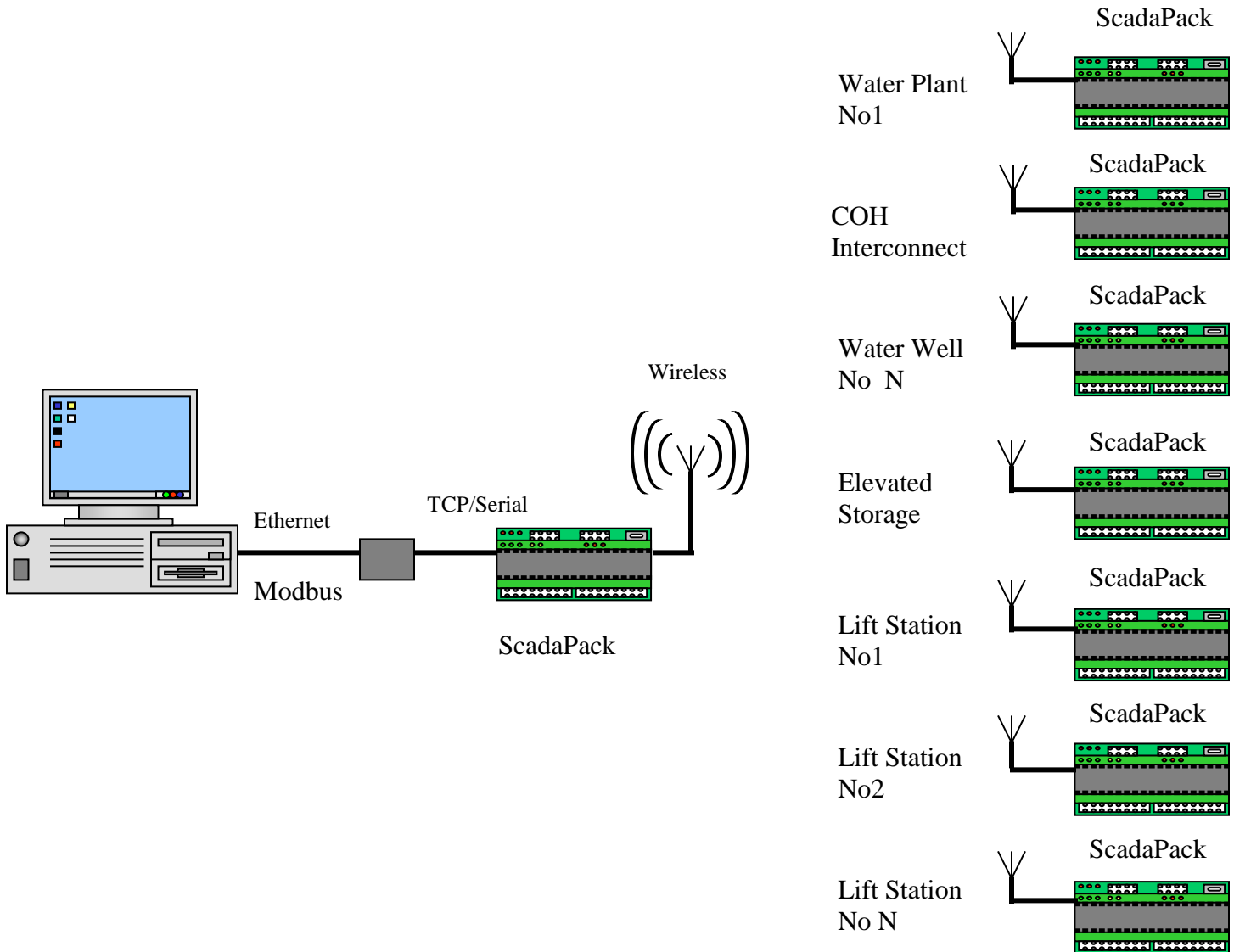


Municipal SCADA System

This software provides functionality to monitor the water system via Scadapack RTUs or any other PLCs, have ability to manage the process, checking for alarm conditions, ability to view real time data and archived data on the Trending screen, printing various reports. The software shall be developed and configured using Parijat SCADA development system which is Microsoft Visual Studio based non-proprietary system.



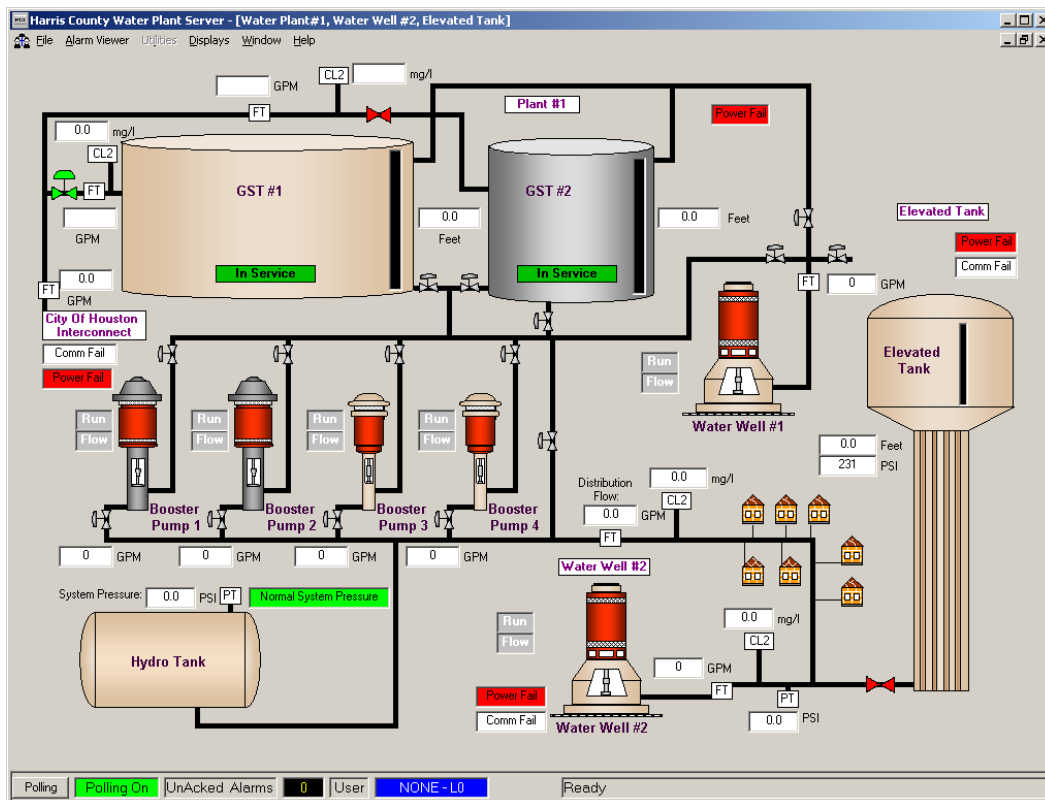
System Architecture

The system includes a stand-alone PC with Ethernet communication card, which will be connected to the SCADAPACK Ethernet gateway. The Ethernet gateway will be connected to ScadaPack controller with serial connection. The Scadapack controller is attached to antenna which will transmit and receive data to/from all Scadapack non-intelligent controllers.

Graphic Displays

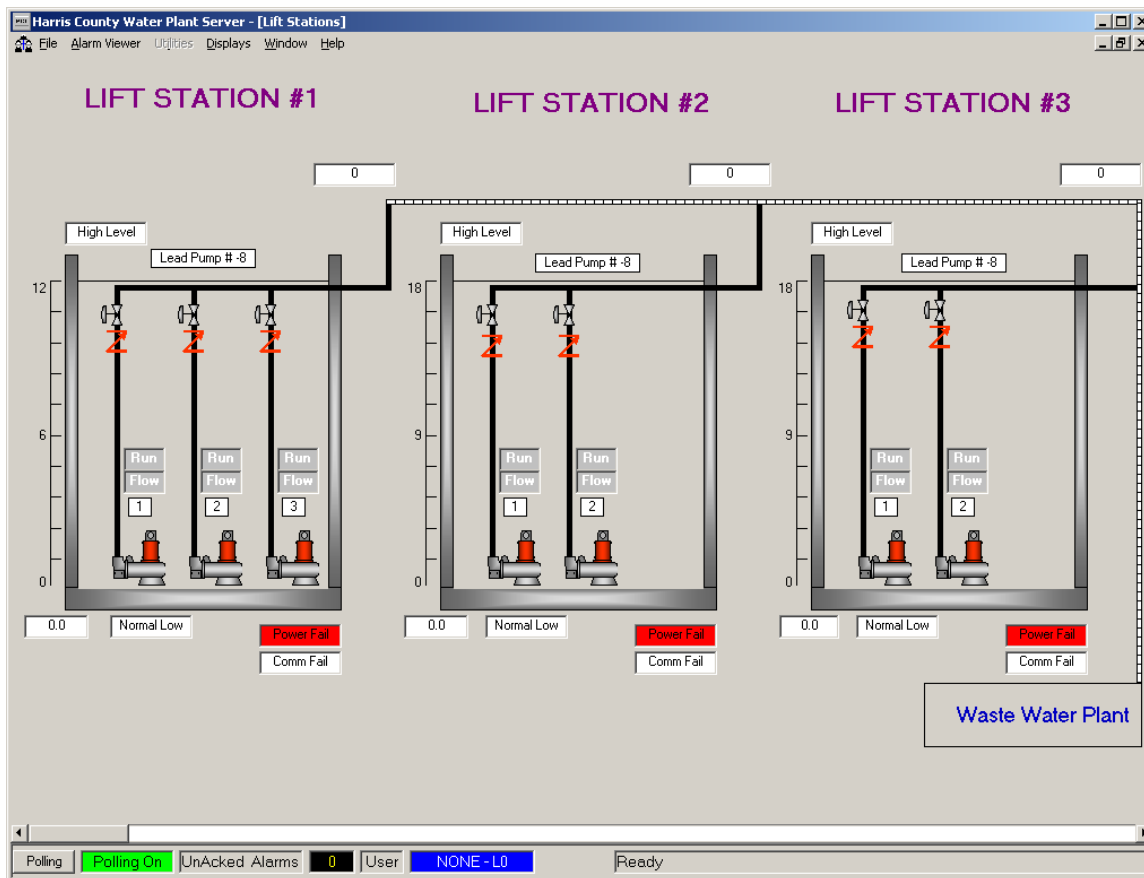
Water Plan 1 and Water Plant 2

This display provides an overall picture of clean water system which includes Ground Storage Tanks, Booster Pumps, Water Well #1, Water Well #2, Hydro Pressure Tank, Elevated Tank, Various Valves. Shown labels represent actual values for System Pressure, Flow Rates, Chlorine Values, Levels, and bit statuses for variety of alarm conditions.



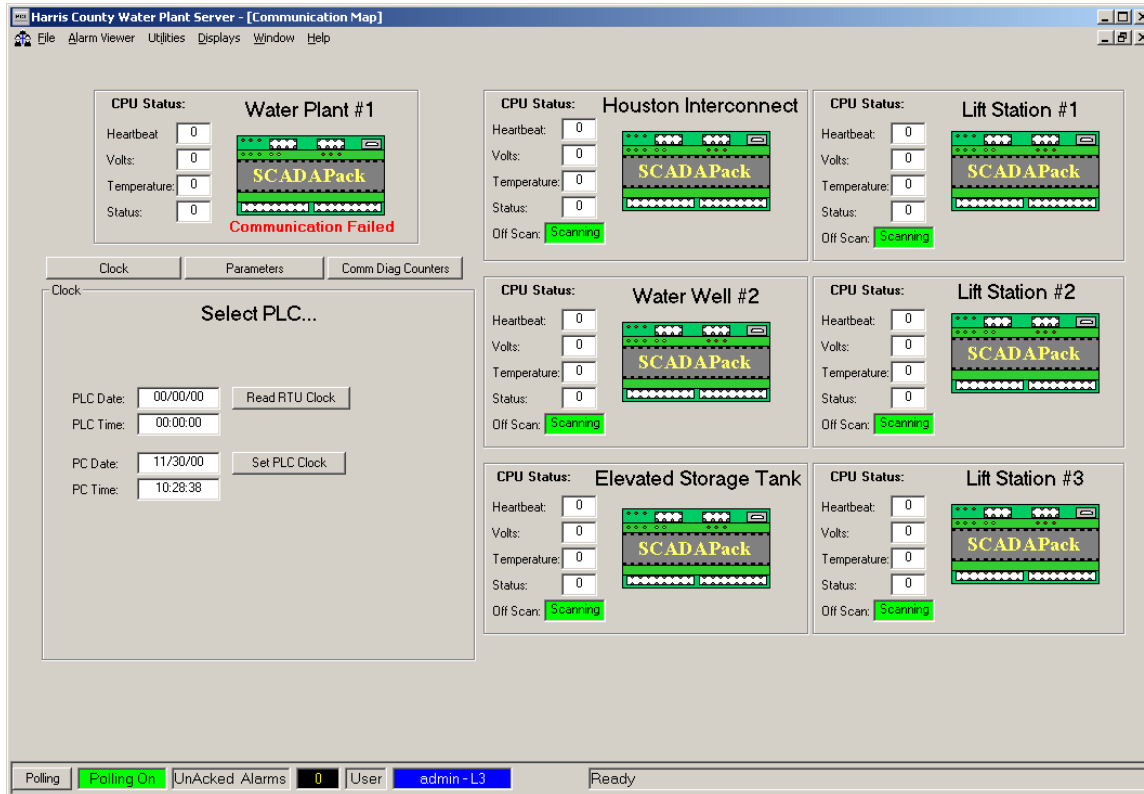
Lift Station Plan 1 and Water Plant 2

This display provides overall picture of Lift Stations water system which includes Pumps, Check Valves, Ground Storage Tanks, Booster Pumps, Water Well #1, Water Well #2, Hydro Pressure Tank, Elevated Tank, Various Valves. Shown labels represent actual values for System Pressure, Flow Rates, Chlorine Values, Levels, and bit statuses for variety of alarm conditions.



Lift Station Plan 1 and Water Plant 2

Communication Display provides you with communication information for every PLC. Also, it provides you some details for every RTU such as Clock time, Parameters, Comm Diagnostics.



Harris County Water Plant Server - [Communication Map]

File Alarm Viewer Utilities Displays Window Help

CPU Status: Water Plant #1
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Communication Failed

CPU Status: Houston Interconnect
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Off Scan: Scanning

CPU Status: Lift Station #1
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Off Scan: Scanning

CPU Status: Water Well #2
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Off Scan: Scanning

CPU Status: Lift Station #2
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Off Scan: Scanning

CPU Status: Elevated Storage Tank
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Off Scan: Scanning

CPU Status: Lift Station #3
 Heartbeat: 0
 Volts: 0
 Temperature: 0
 Status: 0
 Off Scan: Scanning

Select PLC...

Clock Parameters Comm Diag Counters

PLC Date: 00/00/00 Read RTU Clock
 PLC Time: 00.00.00
 PC Date: 11/30/00 Set PLC Clock
 PC Time: 10.28.38

Polling **Polling On** UnAcked Alarms **0** User **admin-L3** Ready

Equipment Details

This screen provide more details on Pumps and valves such as Run times, Set points, Alarm conditions, Run status, and ability to control equipment.


Equipment Details

Booster Pump 2

Run Times
 Total Run Time:
 Yesterday Run Time:

HOA

H
A


Not available

Alarm Condition
 Flow Fail: Good

Inputs
 Flow Fail Input: Fail
 Out Of Service: In service
 Override Enforce: Not enforced
 Pump On/Off: Off

Set Points
 ON:
 OFF:

X
 Close

Communication Information Display

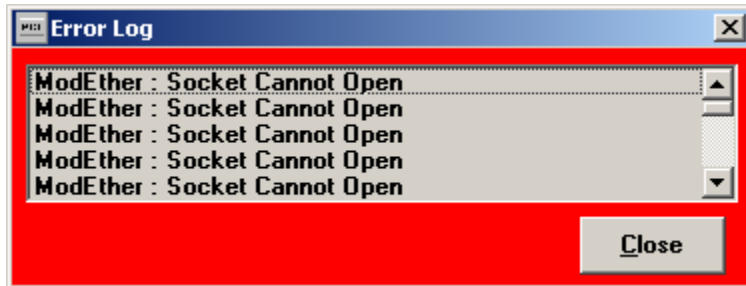
This display shows current comm. settings and status.

MODBUS TCP/IP [ModEther]

Device	<input type="text" value="1"/>	IPAddr	<input type="text" value="209.83.249.52"/>	<div style="background-color: green; color: white; padding: 5px; font-weight: bold; font-size: 1.2em;">ONLINE</div> <div style="border: 1px dashed gray; padding: 2px; margin: 2px; text-align: center;">On Line</div> <div style="border: 1px solid gray; padding: 2px; margin: 2px; text-align: center;">Off Line</div> <div style="margin-top: 5px;"> Busy ● </div>
Scan	<input type="text" value="6"/>	IP Port	<input type="text" value="502"/>	
Function	<input type="text" value="0"/>	Protocol	<input type="text" value="RTU"/>	
TransactionTime	<input type="text" value="0"/>	Err Count	<input type="text" value="3306"/>	
Scan Interval	<input type="text" value="70"/>			
TimeOut	<input type="text" value="1000"/>			
Result	<input type="text" value="Socket Cannot Open"/>			
	<input type="button" value="Close"/>			

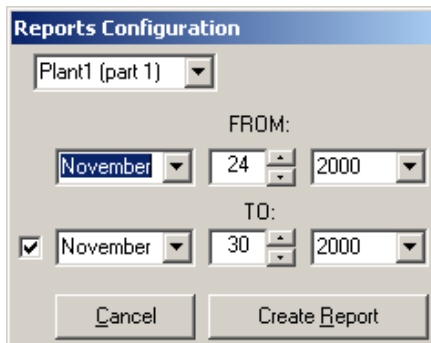
Error Messenger

This window displays errors that occurred during the process. For example: Communication Error.



Report Configuration

This screen provides you select data you want to put on report. You can select different locations and different period of time to retrieve data.





Report

Report displaying data selected from report configuration screen. This report can be printed or saved as .html or .txt file.

PLANT #1 REPORT (part 1)

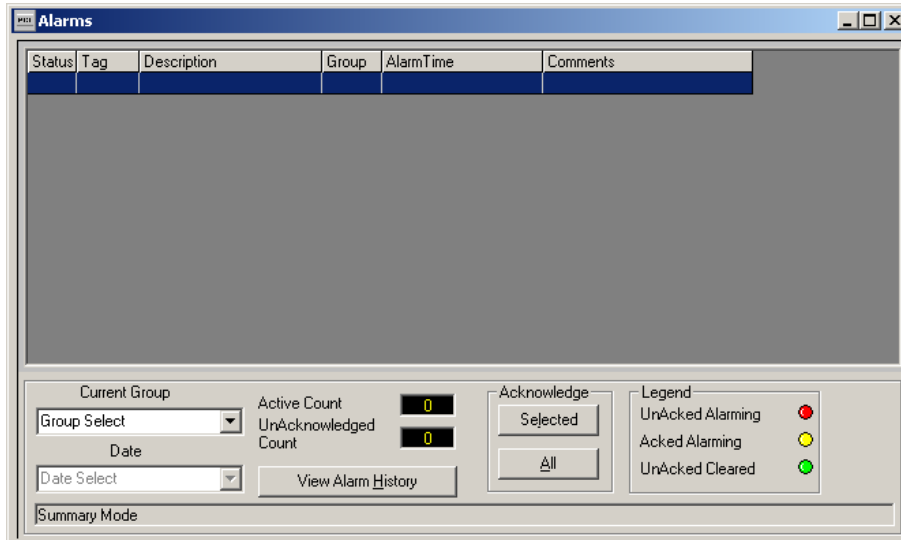
Report for dates from November 24, 2000 to November 30, 2000

Report was printed on November 30, 2000

Date:	Water Well #1			Surface Water			Distribution		Ground Storage Tanks		Hydropneumatic Tank	
	Hrs./Day	GPM	GPD	Hrs./Day	GPM	GPD	GPM	GPD	Low Level	High Level	Low PSI	High PSI
11/24/2000			0	4	0	0			0	0	0	0
11/27/2000			0	0	0	0			0	0	0	0
11/28/2000	0	0	0	0	0	0	0	0	0	0	0	0
11/29/2000			0	0	0	0			0	0	0	0
11/30/2000	0	0	0	0	0	0	0	0	0	0	0	0

Alarm Viewer

This screen will show all alarm conditions which are active or happened before. You can acknowledge alarms.



Trending

Trending screen will show real time or historic data for selected points. You can specify specific points from the list to monitor, and assign different colors to the points. You can resize scaling.

