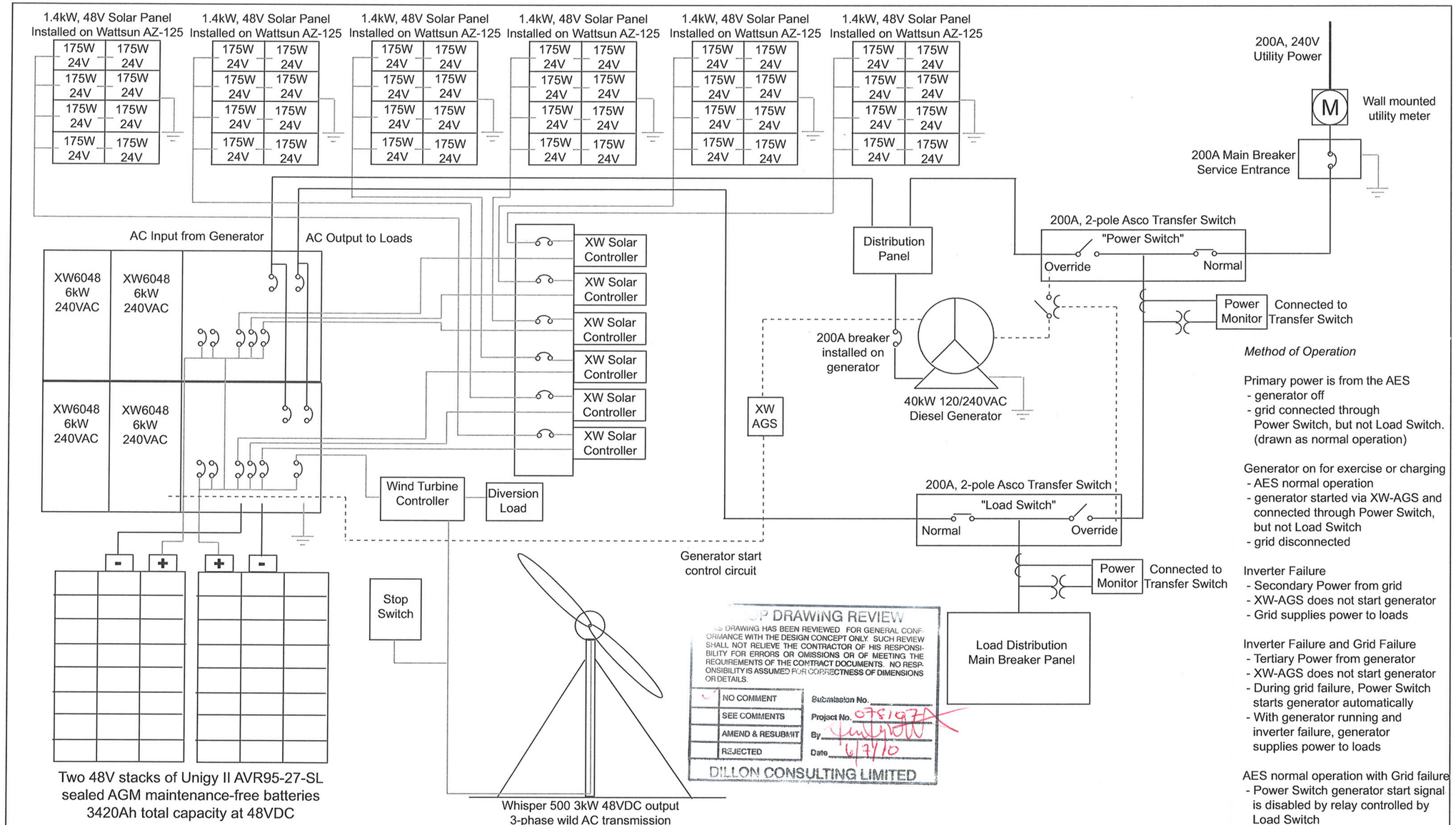
1.4kW, 48V Solar Panel
Installed on Wattsun AZ-125
175W 24V
200A, 240V
Utility Power
Wall mounted
utility meter
200A Main Breaker
Service Entrance
200A, 2-pole Asco Transfer Switch
"Power Switch"
Override
Normal
Distribution
Panel
Power
Monitor
Connected to
Transfer Switch
AC Input from Generator
AC Output to Loads
XW6048
6kW
240VAC
XW Solar
Controller
200A breaker
installed on
generator
40kW 120/240VAC
Diesel Generator
XW
AGS
Wind Turbine
Controller
Diversion
Load
200A, 2-pole Asco Transfer Switch
"Load Switch"
Normal
Override
Generator start
control circuit
Stop
Switch
Load Distribution
Main Breaker Panel
Two 48V stacks of Unigy II AVR95-27-SL
sealed AGM maintenance-free batteries
3420Ah total capacity at 48VDC
Whisper 500 3kW 48VDC output
3-phase wild AC transmission
DRAWING REVIEW
NO COMMENT
SEE COMMENTS
AMEND & RESUBMIT
REJECTED
Submission No.
Project No.
By
Date
DILLON CONSULTING LIMITED
Method of Operation
Primary power is from the AES
- generator off
- grid connected through
Power Switch, but not Load Switch.
(drawn as normal operation)
Generator on for exercise or charging
- AES normal operation
- generator started via XW-AGS and
connected through Power Switch,
but not Load Switch
- grid disconnected
Inverter Failure
- Secondary Power from grid
- XW-AGS does not start generator
- Grid supplies power to loads
Inverter Failure and Grid Failure
- Tertiary Power from generator
- XW-AGS does not start generator
- During grid failure, Power Switch
starts generator automatically
- With generator running and
inverter failure, generator
supplies power to loads
AES normal operation with Grid failure
- Power Switch generator start signal
is disabled by relay controlled by
Load Switch
AES Electrical Layout Single Line Diagram
Revision 1
ENERGY ALTERNATIVES LTD.
Taloyoak Water Treatment Plant
Drawn by: Hiltz Tanner
Checked by: Kevin Pegg
Date: June 4, 2010