



GREEN POWER GROUP PR, LLC. (GPG)

Storyboard for VFH Turbine™ Installation Video

"In terms of production costs, hydropower holds a strong advantage over solar power. The U.S. Department of Energy calls hydropower the most common and least expensive form of renewable energy in the United States."



SITE SELECTION - 1

Site selection is key to a successful program. Actual flow and head are critical for maximum kW generation. GPG provides a USGS report.



AERIAL SITE MAPPING - 2

GPG will provide drone footage of the river, its shoreline, the best parcel for the building(s) and images identifying neighboring plat maps.



HEAD GATE INSTALLATION - 3

Once a diversion channel location is decided, a removable head gate is installed to block flow while the channel is being trenched.



CHANNEL SIZING - 4

The width, depth, length and pitch is determined by the designed flow needed to feed the turbine.



CHANNEL INSTALLATION - 5

Typically, channel floors and walls are constructed of concrete. Shorter and more narrow channels are preferred.



CONSISTENT FLOWS - 6

A diversion channel creates consistent flows and screening prior to entering the penstock.



HYDROSCREEN INSTALLATION - 7

A maintenance-free Hydroscreen™ is installed to allow migrating fish safe passage around the VFH Turbine™.



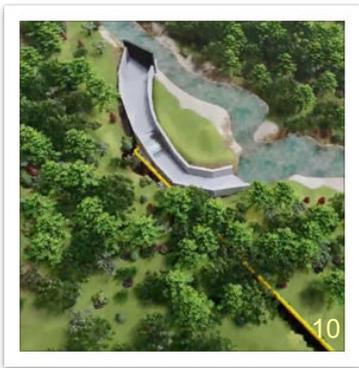
DEBRIS BYPASSES THE TURBINE - 8

The Hydroscreen™ is engineered to only collect water. Debris, silt, and aquatic life pass over the screen.



FISH MIGRATE SAFELY - 9

Fish pass over the screen and connect back to the river. Collected water is gravity fed to the turbine.



PENSTOCK INSTALLATION - 10

After the Hydroscreen™ and water collection area are installed, a penstock or pipe is laid to deliver water to the VFH Turbine™.



PENSTOCK CAN BE ABOVE OR BELOW GROUND - 11

The penstock can be either buried or above ground. Since all debris is separated, clogging isn't an issue.



REMOVING THE HEAD GATE - 12

Once the diversion channel and Hydroscreen™ are completed, the head gate will be removed to allow flows to fill the channel.



NO RESERVOIR OR DAM NEEDED - 13

The channel is engineered to utilize water from the river and not rely on impound water or a reservoir.



HIGHER HEAD = MORE KW - 14

The diversion channel is located at higher elevation than the VFH Turbine™, therefore, creating more head. Higher head = more kW.



PENSTOCK: STEEL OR PLASTIC - 15

Penstock is typically made from steel or high strength plastic. For high head, steel is preferred. Exposed penstocks cost less.



VFH INSTALLATION - 16

The U.S. built, VFH Turbine™ system is fabricated offsite and installed while the diversion channel is being built.



SPILLWAY BACK TO RIVER - 17

A channeled spillway is designed to gravity feed water utilized by the hydro system back to the river. No fish or aquatic life are negatively impacted.



PENSTOCK TO POWER - 18

Penstock delivers a constant volume of water to the VFH Turbine™. A generator converts the rotational energy to electrical energy.



SELF-CONTAINED POWER STATION - 19

VFH Turbine™ is a self-contained power station that houses a generator, turbine, splitter box and control panel.



VFH INCREASES DISSOLVED OXYGEN - 20

Proprietary processes within the VFH system have been designed to greatly increase DO (dissolved oxygen) to enhance the discharge water.



PREDICTABLE POWER 24/7 - 21

Unlike solar and wind power, the consistent flow of river water creates predictable and uninterrupted clean green energy 24/7.



VFH SUPPLIES POWER TO THE GRID - 22

The proprietary VFH control system monitors the voltage and frequency, and adjusts to flow rate through the turbine to make it the same as the grid. Power lines can be installed below ground in areas susceptible to hurricanes and tornadoes.



PRODUCE KWH FOR <1.3 CENTS - 23

Why pay up to 5 or 10 times more for power, when you can make it yourself with no future rate increases, fees or usage penalties for around 1.3 cents/kWh ?



GPG GUIDES THROUGHOUT - 24

Once a plan of action is agreeable, engineers from GPG will provide a list of potential sites that accommodate our required land, flows and head elevation.

"Our shovel-ready technologies focus on Climate Change and Sustainability".



www.VFHturbine.com



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