Over the past few years, many issues, such as higher rates of drug abuse, have arisen in the state of West Virginia. However, one issue in particular has become even more prominent recently: homelessness. According to WVVA, approximately 1,835 people were homeless in January 2015. In addition to homelessness in West Virginia, there are many abandoned and unused buildings in the state due to the loss of businesses, among other reasons. In Charleston alone, over 400 buildings are abandoned (Searles and Williams). These issues can easily be resolved by restoring and revitalizing these empty buildings for the homeless to use. Many of the engineering professions would be able to help in this process by utilizing their specialties to help create safe, self-sufficient homes for the homeless.

The first step in the battle of combating homelessness is to test the structural stability of the abandoned buildings. Many of the abandoned buildings in West Virginia are not completely useless and are capable of being refurbished. Civil engineers can greatly aid in this effort. Along with building contractors, civil engineers can help determine whether the abandoned buildings are structurally sound and calculate whether it would be cost-effective to revitalize them. If these buildings are structurally safe, then civil engineers can set up time frames and obtain the necessary certifications to revitalize the empty buildings.

Next, upon determining if the abandoned buildings are safe and obtaining the proper certifications, comes the actual revitalization of the buildings. Engineers of numerous specialties can aid in this process and make the buildings safe for tenants and the environment. Electrical engineers will be crucial for the success of this project because they will be the ones to set up safe and efficient electrical systems that are
compatible with the green energy sources that will power these buildings. Mechanical engineers will design and create the air-conditioning systems and other systems in the building to create a comfortable atmosphere that shields the tenants from extreme weather conditions. To ensure that the buildings have a clean and safe water supply, chemical engineers will test the pH levels of the water and develop a mechanism to purify the water in case of contamination from an outside source. Lastly, to make the buildings as environmentally friendly as possible, environmental engineers would be recruited to implement methods of self energy production, such as solar panels and small wind turbines, and aid in developing water reclamation devices to purify waste water for further use.

The last step to completely revitalize these abandoned buildings is actually bringing the homeless into these makeshift homeless shelters. These building will have to constantly be monitored to ensure that people who already have stable living conditions do not take advantage of these shelters for their own personal use. To make sure that only people who need the necessities provided by the shelter are inhabiting it, the shelters will only be made known to those who are known to have no shelter by direct contact and will only be spread by word of mouth afterwards. Once inside one of the shelters, there will be attendants in a makeshift lobby area of these buildings to check in people who are in desperate need of shelter. Lastly, to keep these buildings running and serving their proper purpose, there will be inspections held at least once a month to keep the shelter running at maximum efficiency and to evacuate people who do not need the shelter and have their own homes.
All in all, revitalizing abandoned buildings in West Virginia will benefit many people in the state. The refurbished buildings will be useful to society once more and help shelter many of the homeless people in the state. Not only will this benefit the homeless people, but this project would benefit many engineers across the state of West Virginia by providing them with jobs to help improve the lives of many West Virginians.
Works Cited