

## Green Case Study:

### Bellevue Court Homes, Trenton, NJ

The late 19<sup>th</sup> century homes on the 200 block of Bellevue Court form a picturesque streetscape in New Jersey's capital city. In an area where many of the dwellings are vacant or in disrepair, the 22 semi detached units of the Bellevue Court project have newly renovated interiors and facades that have been restored to their original grandeur. Responding to a need for affordable housing and eager to save the architecturally unique homes on Bellevue Court, the city of Trenton committed to bringing back the block. Isles Inc. and Tara Construction Management Corp. were selected as the nonprofit/for profit partnership for the project. The team transformed the once dilapidated shells of homes into attractive, energy efficient showplaces. The homes are three and four bedroom with two and one half baths ranging in size from 1700 to over 2200 square feet.



254-256 Bellevue Court

#### Green Features

Sustainable and recycled materials were incorporated throughout the project. All porches and decks are made from recycled content plastic/wood composite lumber. PET carpet, made from reclaimed plastic soda bottles is used for bedrooms and adjacent hallways. Brick salvaged from demolition was reused as a pervious ground cover. Window frames are made from fiberglass, which is stronger and more durable than window frames typically used for affordable housing. Clapboard siding is made of fiber-cement which is more durable and more thermally stable than typical siding. To promote recycling by the homeowners, there is a recycling area in each kitchen, and recycling storage is provided at the back or side of each home. During construction on site recycling took place. Approximately 47,000 pound of scrap metal was salvaged and sold to a local recycling company for over \$2,100. To reduce water use drought proof plantings and grasses native to the area are used for ground cover. In keeping with good indoor air quality measures, the paints, wood finishes, caulks and sealants used for interior finishes are low or no VOC. Living rooms and dining rooms have hardwood flooring rather than carpeting, which can harbor dust and other allergens negatively effecting indoor air quality. Track off mats are provided at entries to reduce the amount of particulate matter brought in from the outside. Further information on maintaining good indoor air quality is provided to home buyers in their homeowner manual.



Dining room w/ hardwood flooring

#### Energy Efficiency Features

To keep the houses affordable over time they were renovated to meet NJBPU New Jersey Energy Star Program. Heating and cooling losses are reduced through the building envelope with fiberglass insulation, argon filled low e windows, and careful air sealing of the outside walls. Central heating is provided by 90% efficient condensing gas furnaces. Hot water is produced with energy efficient gas water heaters. The central air conditioning systems are SEER 13 and vary from 2 to 3 tons depending on house size. All ductwork is sealed with mastic and tested for tightness. Kitchens are outfitted with Energy Star dishwashers and refrigerators. As a result of these measures, the Bellevue Court homes are projected to use approximately 30% less energy than a home built to typical New Jersey Standards. Two of the 22 homes were built as Microload homes which use 30 percent less energy than the Energy Star homes or about 60 percent more efficient than code (95 CABO MEC) at that time. See Bellevue Microload case study for more information.

### Trenton Area

Bellevue Court is served by public transportation and is in close proximity to shopping and downtown Trenton. Mercer Medical Center is nearby and many of the renovated houses were originally inhabited by doctors serving that facility. The development team member Isles Inc. has a long history in the neighborhood and has one of its largest community gardens in Bellevue. Bellevue Court is bordered by the pristine Delaware and Raritan Greenway along the Delaware and Raritan Canal.



### Delaware and Raritan Greenway

#### Sales and Partnerships

The homes will be affordable to moderate and low income families. Eleven of the 22 units will sell for \$55,000 to buyers earning less than 50% of the median income, or \$39,740 for a family of four. The remaining 11 units are slated for moderate income families, earning between 50% and 80% of the median income, or from \$39,740 to \$63,583. These units will sell for \$72,000. The mix of incomes in the same cluster of housing was one of the goals of the project. Funding was provided by the city of Trenton, NJDCA Balanced Housing program, NJDCA HOME Grants, the Federal Home Loan Banks of New York and Pittsburg, and the New Jersey Green Homes Office.

Working on neighborhood outreach with Shiloh Baptist Church Isles Inc. found that before construction was complete over 200 people signed up to purchase the renovated homes. Inspired by the success of the project, the city of Trenton has launched a façade restoration program for all the remaining homes on the 200 block of Bellevue Court.

#### Lessons Learned

The energy efficient, sustainable aspect of this project was the first of its kind for many of the team members. In the future, most felt the learning curve could be reduced with preconstruction meetings attended by all the appropriate subcontractors. There was also the desire for closer coordination of on site administration between the developer and architect. Guidance in the field was needed more frequently than it was available. The contractor for the job noted after Bellevue Court he would be “at least 40% more efficient” with the energy and air sealing requirements on his next project of this type.



Streetscape at Bellevue Court