

Background

In 2003, the Emerald Coast Utilities Authority (ECUA) directed its consulting engineers to conduct a feasibility study to determine the most cost-effective options for rebuilding or replacing its aging Main Street Wastewater Treatment Plant. The plant, parts of which were built prior to World War II, had simply outlived its useful service. Modern technology, in conjunction with modern strategies for treating and disposing of wastewater, had rendered the plant obsolete.

As many expected, the feasibility study revealed that replacing the plant with a modern facility in a more central location offered the best solution for the ECUA, its ratepayers and the citizens of Pensacola and Escambia County. As if to add emphasis, Hurricane Ivan struck in September of 2004, causing the release of raw sewage into the streets and leaving the plant inoperable for three days.

Despite heroic efforts by ECUA staff to continue to keep the plant running efficiently, the simple fact is that Ivan, with its wind-driven saltwater, took at least 10 years of life from a plant that already was outdated. The idea that the plant should be replaced and relocated has shifted in much of the public's opinion from a good idea to an urgent priority.

Toward that end, ECUA has tasked its engineering team, Baskerville-Donovan, Inc. and Hatch-Mott MacDonald, to develop a facilities plan that would serve as the guiding document to take the new plant from "concept to concrete." The facilities plan includes the site selection and other components that detail the equipment to be used, recommended routes for transmission mains, reuse alternatives and a capital financing plan.

Selection Criteria

The engineering team began its efforts by screening 23 potential sites based on a set of minimal pass/fail criteria. Of those, four were eliminated because they are included in the University of West Florida's master plan. Four other sites studied did not offer the minimum 50-acres required for the site. One site is being developed for other uses and another is too close to ongoing development.

The remaining 13 sites were evaluated based on a weighted scoring system that awarded points based on:

- **Amount of usable land above the Category 5 flood elevation.** ECUA required at least 50 acres on which to locate the plant. Half of that will be used for the plant itself and the other half will be used as a buffer. More points were awarded for more acreage and larger buffer.

- **Proximity to neighborhoods and homes.** No more than 10 percent of the area immediately adjacent to the plant site could be developed. More points were awarded based on increased distance to and lower density of nearby homes.
- **Proximity to ECUA and private water wells.** The engineers required that the new site offer a safe distance between the wastewater treatment plant and any existing public or private potable water wells. Points in this category were awarded based on distance to wells.
- **Grade or slope.** ECUA required that the site have a slope that is 15 percent or less for the most economical construction cost. More points were awarded to the site with the lowest estimated cost for site preparation.

In addition to the criteria listed above, ECUA also tasked its engineers to take into account the potential for industrial and other reuse opportunities and to ensure that the selected site would have a minimal impact on wetlands, historical and archeological sites.

The Finalists

Of the 13 sites scored according to these criteria, the top four sites were given additional consideration. Two of these were identified as significantly better than the rest:

- **Site 21**, a 327-acre parcel off Chemstrand Road, owned by Solutia Inc.
- **Site 1**, an 89-acre parcel off U.S. 29 North, owned by International Paper Company.

The scoring for these sites determined that either would be desirable for the new water reclamation facility. Both met all the minimum requirements and offered similar costs for development. In addition, both are near existing industries with the potential to share resources like steam and electric power. These same industries offer potential reuse opportunities as well.

The Recommended Site

Although both sites are good choices, additional factors led to the recommendation of Site 21.

Site 21 offers a nearly ideal location for the new reclamation facility, with the nearest home almost three-quarters of a mile away from the water reclamation

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site boundaries. This was the largest buffer of any of the sites considered. Also, the land on which the facility would be located is zoned for heavy industrial use and it is adjacent to an existing industry.

Site 21 offers an advantage in terms of transportation as well. The access road (Chemstrand Road) offers easy truck access.

Another benefit to the location is the availability of adjacent acreage that can be used for constructed wetlands. Although the engineering team has made beneficial reuse (reclaimed water used for industrial processes) a priority, constructed wetlands offer an environmentally friendly use of any excess amounts.

Summary

Site 21 is the best of several better alternatives to the Main Street Facility currently in use.

- The site's location is well-buffered and invisible to its nearest residential neighbors. Unlike neighbors of the Main Street Facility, they will not see, smell or hear the plant and its operation.
- The site is inland and well above the Category Five flood elevation. The plant will not be subject to flooding and is more resistant to the impacts of hurricanes.
- The site offers potential for beneficial industrial reuse that is not economically available at the Main Street location.

Further benefits of replacing the Main Street Facility include:

- Use of 21st century technology that will lower operation and maintenance cost, while essentially eliminating odors.
- Ending direct discharge of treated effluent into surface water.
- Accommodating job growth and economic development in the county.
- Eliminating a significant impediment to downtown improvement efforts.