



The Site-Selection Challenge

Site selection is among the most critical elements of any seniors housing project, and a decision must be made well before a project can move forward.

A VARIETY OF FACTORS COME INTO play when looking at sites for a seniors housing and care facility. Are there a number of older persons living in the area? Is there reasonable access to public transportation, shopping, churches, and other community services? Does the community support the project? Are site conditions suitable for development and construction?

It's the latter—site conditions—that often raises the most questions. While the site may satisfy several important criteria, there still may be zoning or environmental restrictions or other design considerations that require further research and analysis before making a final site-selection decision. However, good locations should not be overlooked simply because of potential site challenges.

Case Study

The Newcastle Place senior center, recently constructed in Mequon, Wis., is a good case study. It demonstrates why providers should take a second look at sites that initially seem desirable, but might otherwise be overlooked due to environmental or other site challenges. Newcastle Place, operated by Milwaukee Protestant Home, is a \$32 million seniors living facility built on a 26-acre site. The facility

includes one major building with apartment units for elderly clients, complete-care facilities, and underground parking, together with five duplex buildings. The project was completed in June 2003.



Protected wetlands pose an engineering challenge for Newcastle Place.

Aspects of the site that were desirable from an engineering viewpoint included a relatively level grade, positive drainage, and good access to sanitary sewer and a water supply. Additionally, the site is located less than one-half mile from a major hospital, adjacent to a golf club, and close to one of the area's finest restaurants.

Challenges At Newcastle Place

The three primary engineering challenges that existed on the Newcastle Place project included avoidance and protection of existing wetlands, preservation of specimen trees and protection of woodlands, and storm water management and drainage design.

■ **Wetlands** The identification of wetlands at the onset of the Newcastle project required that a wetlands specialist join the team. Bringing needed team players on board early when potential concerns have been identified can reduce the amount of lead time needed and help the team hit the ground running.

The Newcastle site presented some distinctive challenges in terms of meeting the Wisconsin Department of Natural Resources' (DNR) wetland protective requirements. Four small pockets of noncontiguous wetlands that ranged from 4,500 square feet to more than one acre in size occupied the site. The site design

was laid out so that the 291,000-square-foot development would fit on the site without disrupting any of the wetlands. The central structure of the development was constructed within approximately 25 feet of two of the smaller wetland pockets. In addition, a double row of silt fence was erected around the delicate wetlands to protect them. The project was coordinated with DNR to gain its approval.

It's important to note that any site development that includes wetlands, stream bank, or an environmental cor-

JOHN FLATT is project manager at National Survey & Engineering, Brookfield, Wis.

ridor requires a close working relationship between the project team and DNR. The project team is responsible for diligently pursuing the protection and preservation of all existing natural resources.

■ *Woodlands* The Newcastle site was bordered by approximately 10 acres of woodlands to the south that required careful handling. The design preserved all city-designated specimen trees, a requirement of the city of Mequon. The woodlands are tied to the development by a series of walking trails.

In some communities DNR places its own restrictions on woodlands if they are part of a primary environmental corridor. If the woodlands are contiguous to woodlands on adjacent properties, DNR may require that the woodlands be kept entirely in their natural state as part of a primary environmental corridor.

In most instances a roadway can be constructed through a wooded area if the specimen trees can be avoided. However, some communities require a stringent tree replacement process. The possibility of such a requirement should be researched when evaluating a wooded site for development.

■ *Drainage and storm water management* Two large detention areas were designed on Newcastle Place. The site grading plan was prepared to preserve the wetlands areas by making certain that the rate at which the clean drainage flowed into the wetland stayed the same as the rate of flow prior to preconstruction so as not to destroy the wetlands by either drowning or starvation.

This was accomplished by carefully splitting the site drainage between the wetland areas and the detention storage ponds to ensure that the amount of surface water that historically created the wetlands was maintained but not increased.

In addition to the standard erosion-control measures that must be fulfilled in accordance with each state's erosion-control requirements, water-quality

ponds and other similar storm-water management measures are becoming a requirement in nearly every community. The way in which storm-water management is handled is somewhat unique to each state and even from one community to the next. New regulations are introduced by the Environmental Protection Agency and each state's DNR on an ongoing basis. Therefore, the impact of both current and proposed regulations on a proposed project should be determined.

Additional Challenges

Other site challenges that were not present on the Newcastle project, but may require consideration on other sites, include steeply sloping land, streams, unusual roadway setbacks, environmental corridors, and other government restrictions. Thus, another project consideration is finding a project team with proven experience in working with regulatory agencies and moving projects through the approval process. A team that works collaboratively and quickly gets up to speed on the requirements of all involved public utilities and government agencies is critical to achieving a win-win-win outcome for the health care provider, the community, and the project team.

On the Newcastle project, for example, the chief engineering team was joined by several subconsultants on the site-work portion of the project. These included geotechnical (soils) engineers, landscape architects, and traffic engineers.

Things To Look For

It's advisable to have either a professional engineer or another trained individual conduct a due diligence effort that alleviates any uncertainties or doubts about the undeveloped property. Due diligence means identifying barriers to development and providing the developer or owner with the comfort level needed to proceed with the project.

Due diligence can take on many

forms, including the informal process of raising questions while considering a proposed site or undertaking a more formal process in which all aspects of the site are researched. A comprehensive due diligence effort can be defined as a three-step process. First is the initial shotgun approach that looks at all issues. Second is focusing on the unique and potential problem areas. Third is estimating the costs or effort to resolve the problems.

Available property data that should be collected includes surveys; easements; zoning; drainage; hydrology; floodplains; wetlands; environmental site assessment; archaeological survey; soils; grading; roadways and paving; sanitary sewer and water; and utilities, including electric, gas, fiber optic, and telephone.

When an individual decides to conduct his or her own due diligence on a local piece of property, nothing should be taken for granted. It's best to undertake a formal due diligence process, which involves collecting the aerial photos and maps and communicating with local utilities and government agencies. These individuals might be able to provide some valuable information not available anywhere else.

Preliminary engineering also helps identify things such as whether more property or easements need to be acquired, whether utilities can cost-effectively be brought to the site, where the slopes are, and more.

With the proper site research and project team effort, sites that represent high-priority locations for continuum of care development but offer site design challenges can cost-effectively achieve their potential. ■

For More Information

■ The author can be reached at (262) 781-1000.

■ Information about National Survey & Engineering can be found on the Internet at www.nsae.com.