



Blueshore Engineering
BUILT ON INTEGRITY

CASE STUDY

Reclaiming Buildable Space Through Proactive Site Engineering for Amenity Developments

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Project Overview

Blueshore Engineering supported a clubhouse amenity development in Naples, where an existing permitted stormwater management approach created unnecessary site constraints and reduced the project's usable footprint.

The previously approved design required construction of a dry retention area that limited future flexibility for the owner, reduced overall site aesthetics, and added avoidable construction scope and cost.

By reevaluating the site's existing surface water management system, including pre- and post- nutrient loading, and existing interconnected lake system, Blueshore Engineering identified an alternative solution that preserved the project vision while improving overall site efficiency.

The Challenge

The project inherited a previously permitted surface water management system that required the construction of a dry retention area to satisfy water quality requirements.

While compliant, the permitted approach created several project challenges:

- Reduced developable and usable site area
- Limited flexibility for future site improvements
- Added unnecessary construction costs
- Reduced overall aesthetic quality within the amenity environment
- Created potential tripping hazards near active recreational areas
- Risked delaying the opening of the project's sports courts

If left unchanged, the owner would have been required to construct the dry retention area despite the availability of a more efficient engineering solution.

The Engineering Approach

Blueshore Engineering conducted a detailed review of the project's hydrology, existing permits, and water quality calculations.

Rather than defaulting to the more commonly used compensating water quality method utilizing dry retention, the team recalculated the required water quality volume using a portion of the existing lake area already located on-site.

This alternative approach eliminated the need for the additional dry retention area while still satisfying applicable water quality requirements.



By reevaluating the site's existing lake system, Blueshore Engineering eliminated the need for a previously permitted dry retention area while maintaining water quality compliance.



Reclaimed valuable site space while preserving long-term project flexibility.

By leveraging existing site infrastructure, Blueshore Engineering reduced unnecessary construction scope while maintaining water quality compliance.

The revised strategy:

- Eliminated unnecessary stormwater constraints
- Increased usable footprint and future design flexibility
- Preserved the overall architectural vision for the amenity environment
- Reduced unnecessary construction scope and associated costs
- Helped avoid redesign and future site limitations

The Outcome

By removing the need for the previously planned dry retention area, Blueshore Engineering helped reclaim valuable site space for future development opportunities while improving the overall functionality and aesthetics of the project.

Project outcomes included:

- Environmental Resource Permit successfully modified
- Elimination of the required dry retention area
- Preservation of developable land for future use
- Reduced construction scope and associated costs
- Improved overall site aesthetics
- Prevention of delays related to opening the sports courts and achieving project closeout

The revised stormwater strategy also allowed the owner to close the permit immediately following permit modification, since the updated water quality calculations relied on the existing lake area rather than requiring construction of additional retention infrastructure.

Project Impact

This project demonstrates how proactive civil engineering review can uncover opportunities to improve site efficiency, preserve design flexibility, and increase long-term project value.

For clubhouse and amenity developments, early engineering coordination can directly impact:

				
Buildable area	Site aesthetics	Future development flexibility	Construction efficiency	Project timelines

Blueshore Engineering works closely with architects and development teams to develop practical engineering solutions that support both technical compliance and broader project goals.



Blueshore Engineering

BUILT ON INTEGRITY

**Supporting architects, developers, and
project teams throughout South Florida.**

Planning a Clubhouse or Amenity Project?

Early engineering coordination can help identify opportunities to improve site efficiency, preserve design flexibility, and reduce downstream revisions.

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