

New London Educational Learning Center (ELC)

Case Study



CLIENT

Southwest West Central Service Cooperative

CHALLENGE

Introducing natural daylight into the central recreation area, which also serves as a storm shelter, posed a significant challenge. Traditional windows and skylights were not feasible due to the need to comply with strict ICC 500 and FEMA P-361 storm shelter codes while ensuring structural integrity and occupant safety.

RESULTS

The installation of Solatube SolaMaster 750 DS-O tubular daylighting devices (TDDs) successfully illuminated the recreation area with natural light. The solution met stringent storm shelter regulations, enhancing both the energy efficiency and comfort of the space without compromising safety.

PRODUCT

(12) Solatube SolaMaster 750 DS-O compliant with ICC 500/FEMA P-361
(8) Solatube SolaMaster 300 DS

SOLATUBE DISTRIBUTOR: Daylight Specialists

ARCHITECT OF RECORD: Hay Dobbs

GENERAL CONTRACTOR: BCI Construction

BACKGROUND: The New London Educational Learning Center (ELC) in New London, Minn., was designed to support students with learning and behavioral challenges. This 25,000-square-foot facility replaces an outdated building in Willmar, Minn., that had become too costly to maintain. Completed in June 2024 by BCI Construction, the ELC offers specialized educational services for up to 50 students. The project represents a significant investment in the local community, providing a safe, modern and functional environment tailored to the needs of its students.

CHALLENGE: A key challenge in constructing the New London ELC was introducing daylight to areas where traditional windows or skylights were not viable, especially in the cafeteria and recreation area. The recreation area also functions as a storm shelter, requiring strict adherence to Minnesota's E-occupancy standards and ICC 500 codes. This meant that the daylighting solution not only had to provide natural light but also maintain the shelter's structural integrity and safety. The architects and construction team worked together to develop a solution that met both architectural and safety requirements.

SOLUTION: The design team, led by Hay Dobbs architects and BCI Construction, collaborated closely with Solatube distributor Daylight Specialists to integrate 12 Solatube SolaMaster 750 DS-O daylighting systems. The 750 DS-O is the only rooftop daylighting product globally that complies with both ICC 500 and FEMA P-361 standards, making it



the optimal choice for storm shelters. Additionally, Solatubes were added to the school's multipurpose room.

The system allowed natural daylight to be introduced into the storm shelter and multipurpose room without the need for costly protective measures, maintaining the structural integrity and safety required by strict storm shelter codes. Architect Gary Hay highlighted the importance of the solution: "The quality of these internal spaces is much higher due to the daylight infused throughout. With Solatube TDDs, we provided ample daylight while extracting UV rays, a feature important for students with UV sensitivity."



Adam Aalgaard, another architect from Hay Dobbs, emphasized the collaborative effort: "Daylight Specialists was a great asset on this project by working with our team and providing a project solution that quite positively impacts the space."

The success of the project was due to the strong collaboration between the design, precast and engineering teams. By working together, they were able to meet the daylighting objectives without compromising the safety and functionality of the storm shelter.

RESULTS: The integration of Solatube SolaMaster 750 DS-O systems transformed the storm shelter, recreation area, and multipurpose room into a bright, welcoming spaces. This marks a milestone for the architectural and construction teams, who had not previously incorporated daylighting into a storm shelter.



BCI Construction's Project Manager, Jennifer Colton, recalled being surprised by the daylighting's effectiveness, stating, "I found myself looking for a light switch to turn off before realizing the brightness was simply natural daylight!"

CONCLUSION: The New London ELC stands as a model of innovative design, where cutting-edge daylighting technology seamlessly integrates with storm shelter requirements. Solatube's ICC 500/FEMA P-361 compliant SolaMaster 750 DS-O system, installed by Daylight Specialists, ensured a safe, functional, and aesthetically pleasing environment. This project underscores how modern technology can enhance learning environments while meeting the highest safety standards.