Developed by Smith Cattleguard Co., functional and attractive structure is delivered fully assembled

Precast firm markets ready-to-use utility building

A 120-sq.-ft. precast utility building delivered and set within minutes?

"Yes," says Rodney Smith, president of Smith Cattleguard Co., in Midland, Va. Under the leadership of Smith, this aggressive and progressive precast company pioneered the development of precast cattleguards nearly 20 years ago. Five years ago, SCC produced an all-concrete, single-family dwelling, and three years ago it introduced rental of median barriers for highways.

Now SCC has come up with another first—a concrete utility building delivered completely assembled and set within minutes.

A low-cost alternative to the conventional concrete block building on slab using an asphalt shingled roof, SCC's building is delivered on order from stock. It is also substantially lower in cost than a fiberglass building or structural metal building of comparable size.

The concept is sound. Precast concrete buildings of this size are widely accepted in Europe. Smith's building is an all-new product, not just a remake of another. He elected to bypass existing structural precast panel designs in order to design a utility building from the ground up and for the exact purpose for which it was intended. During its development, an engineering firm was consulted to insure the building's integrity; and a sample building has been successfully tested under a simulated snow loading of 25 lb./sq. ft.

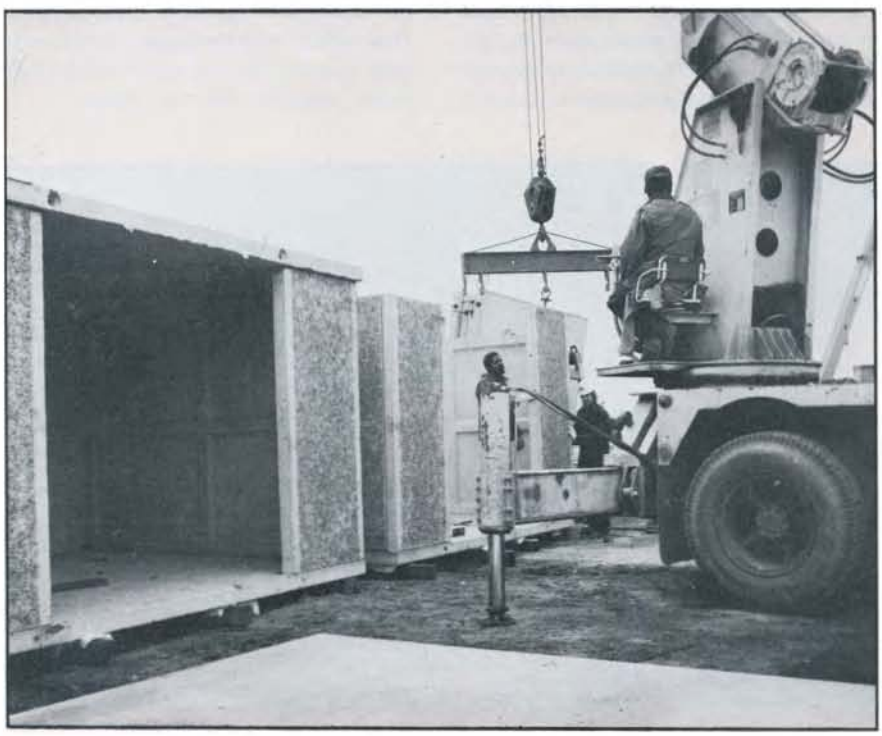
The utility building is another example of Smith's business acumen. Throughout SCC's 20-year history, he has specialized in developing standardized products with high profitabilities. "We tend to avoid special or custom jobs," he says "because production costs cannot be accurately estimated in advance. When I add a product line, I want to know I'll be earning a minimum of 20% pretax profit." The utility building assures him at least that.

During the building's development, Smith was thorough in exploring ways to keep the consumer's costs low. Wherever possible, he makes use of locally available materials, manufactures a single size (but versatile) building and keeps the delivery simple. At the same time, no step is omitted in giving the most quality for the dollar.

Like other products developed by Smith Cattleguard Co., the utility building has quality features that set it apart from any competition. For example, the roof is slightly sloped so it sheds water. The overhang of the roof has a "drip strip," which prevents rain water from reaching the roof joints or washing down the side of the building. The interior contains inserts for shelves. A recessed pattern in the interior surfaces eliminates some unnecessary weight (which reduces cost) and also provides an attractive appearance.

Recessed pattern of interior surface saves weight, adds to appearance.

Exterior walls of this all-purpose structure have exposed aggregate finish.



Buildings are assembled at the plant with seven panels.

Loaded on a trailer, the 20,000-lb. building heads for installation site.

Since the building is caulked at the joints to make it watertight, reveals are located at critical surfaces to accept the caulking material.

The roof and floor panels use an exclusive post-tensioning technique that

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Ready-to-use . . .

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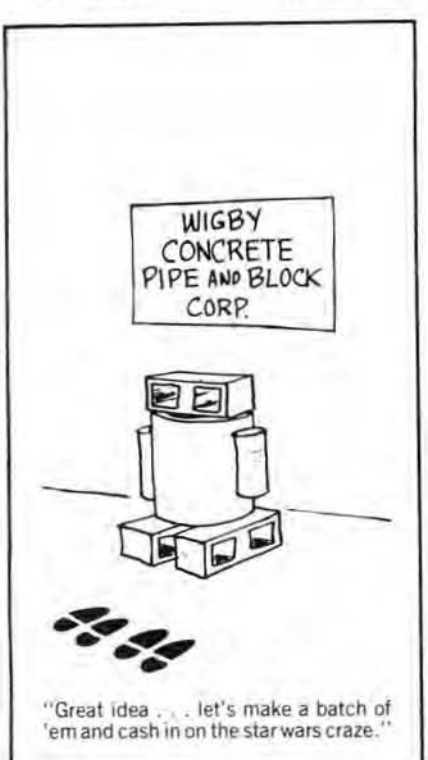
provides additional strength and also makes them waterproof. No other waterproofing processes are needed.

According to Smith, his utility building is the first and only successful application of post-tensioning in a product of this size. This technique was first used in an all-concrete, single-family dwelling he developed.

Esthetics have not been abandoned to reduce cost. Says Smith, "We could have provided a building with conventional grey exterior walls. Instead, we elected to use an applied aggregate finish." This technique has been used successfully on a small scale in Europe, but SCC is the first in the U.S. to offer it on a standard product.

Smith believed the cost of providing an architectural exposed aggregate finish would have been prohibitive. SCC's utility building achieves the aggregate surface by seeding the wet concrete with locally available riverstone. Smith will also provide any surface the buyer wants, for an additional cost.

Delivery and setting costs are minimal. The building is assembled at the plant with seven concrete panels reinforced with steel and fibers. The heaviest panels are the concrete roof and floor which weigh about 6,000 lb. each. Once assembled, the buildings are stored as completed units, with their double steel doors installed. This way they can be delivered in any kind of weather if the buyer has prepared the site for setting.



"Great idea . . . let's make a batch of 'em and cash in on the star wars craze."

When a delivery is to be made, the 20,000 lb. building is loaded on a trailer, driven to the site, and set in place within minutes. "Less than an hour after the truck arrives, we give the customer the keys to his new building," says Smith.

A precaster who does not have a crane large enough to lift the 10-ton building can deliver it as panels, for assembly on-site. Complete assembly then takes less than half a day.

Because the building was originally conceived as a security structure, it contains no windows. There are two small ventilators for circulating air. For customers who want windows or certain openings in the walls and floor, accommodations can be made at an additional cost. The double steel door with tamperproof hinges and deadbolt is standard equipment included in the cost.

Smith is finding that industrial and institutional users form the major market for the utility building, with some selected private buyers. He plans to sell between 100 and 200 units (sales of $250,000 to $500,000) in his market area in 1980. Buildings already have been sold to schools (for maintenance and sports equipment storage), utility companies, even an airport and a gun manufacturer (for storing explosives and weapons and for a test firing range).

Because of the commercial applications, Smith thinks cities with populations of over 500,000 are the main buyer areas. However, units can be sold to upper income families who want a substantial utility building—as pool houses or for lawn care equipment storage. (The capability of concrete to store such toxic substances as fertilizer is another advantage over the steel structure.) Applications of the building, he says, "are limited only by the user's imagination."

Smith, always in search of new products as well as of ways to improve existing ones, is currently working on a single car garage using the same precast technology. He plans to introduce it sometime this year.

This building, the garage, and all other products developed by Smith Cattleguard Co. are available for manufacture around the world, under licensing arrangements with Easi-Set Industries, also located in Midland, Virginia. □