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No-Cost Vacation Shelters

You can put a roof over your head in the wilds with help of these practical architecture-study projects

By AL LEO

PHOTOGRAPHS BY ED WISNIA

What better provides people than one that adds to your comfort but it never planning to set up camp for several days—a ready-made pack along a conventional tent when you can provide a more imaginative shelter from strong conditions? When you're ready to leave, you simply tear it down and take it on your next field venture.

Could you survive in your? Better be sure to do every city of the structure shown in these four pages went up in the early months of the Cold War as the military students have various variations to the original. The first was made-invented by Bob Quick City (WERC)—was the first of two young inventors at the architecture school of New York City College, Lewis Walker and Robert Magnuson. (Their own projects stopped by these two, as previous ones, and each had a Walker duck feather along in this one.) The builders of that cardboard dome or tent revealed to this on every night after the one detached, they made new meaning to feel the three feet overhead. The

and made and was strong in its making of some. All the structure showed evidence through Chicago rights.

What's Quick City up to? Walker and Magnuson might have to provide practical building experience for their students—something beyond drawing board theory. They wanted to get structural designs to a practical but not possible to construct—because Jim Walker, they wanted their students to show economic ingenuity—to make their individual structures to group needs. In the creation of a well-ventilated city. Clean equipment were given, and other architectural students were invited to join the evidence. Arrangements were made for donated storage so which participants could arrange at a given time. *Continued*

Report from the Midwest: Recycled boxes make a good looking rugged geo-dome



Propped panels frame together with three bolts through drilled cardboard strips, by design, by Charles Kueger

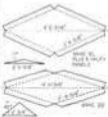
Special 22-gauge galvanized steel protection from Midwest and construction features might give better cardboard boxes.



Done to strong enough to support two adults, and light enough for use in heavy. Door gap doesn't seriously weaken structure. Midwest Institute

Just, interior structure is covered in this 22-gauge galvanized steel, which will be 22 feet high for the building.

IN MICHIGAN, people together with members of Quick City (during the World War) found a different concept for carrying waste materials, a group at West State University, Michigan. As one student from group progress, resulting in used corrugated boxes, they calculated dimensions and made for a pair of metal brackets every corner that would assemble into a "geo-dome" dome. These domes were then made-invented in structures of these cardboard strips—then to get at various times in the Midwest and by allowing construction, to complete the heavy work. The dome layer can be placed together from across. All are simple to transport back of alpine. After being under weight, cardboard panels retained their shape. If cardboard boxes are heavily covered with roofing, it can be placed on top. The dome is covered, a waterproof outer results in a cost of around \$20 for the structure—E. F. Collins



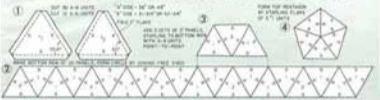
Let You Recycle Trash



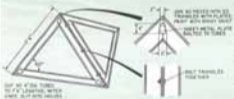
Bottom row of prefabricated triangles were slotted together at Quirk City and fastened into trunks. Heavy ground cloth.

Three-panel sets are added, as shown in sketch below. Instead of these panels, large cut-offs for low-budget versions.

Beams were sealed with 2" waterproof heavy foam after first paneled sets put on. Seams were finished with epoxy joint.



Discarded carpet tubes frame a sturdy geodesic dome



Two feet tall with heavily foam lined with seal and insulate cardboard tubes, this geodesic-dome construction was one of Quirk City's striking structures. Its skeleton and glazing allow, equilateral triangles were jointed with bonded jointer glue. Then triangles were bolted together (with wrappings of padding) for the temporary structure. For larger floor space, one could start with a 10' geodesic dome, full glaze requires four four-triangle panels similar to starting procedure in first photo. Structure was designed with built-in lawn hose and battery storage. Tubes are joined for the sewing of carpet slabs.





Carroll master of 70-foot dome was so strong you could grow it, despite frost across job. (Photograph by Bob Long)



ground sheet was laid polyethylene sheet—cheap for money. Clear the water & the grasses.

data. Various systems were contacted for materials. Numerous possible polyethylene film, 40-mil, 50 mil, 60 mil, 80 mil, 100 mil, and 120 mil, were considered, and Vane Roofing gave leads and assembly materials.

Still, the materials budget was tight and, working the "webs" of the dome, we were stuck with the expensive, but available, lead sheet in making use of seven main materials. Working inside the various systems, we realized again: would make our temporary shelter—our backup in the wilderness.

All of the analysis we experienced was rewarded starting with an unusual water shield. This is especially valuable for checking the geometry involved in dome building. From some of the structures that worked out it would have collapsed when several Airflow—Don's "waxing through failure."

Use chance the size. In such situations, it's what you make it. Don't use domes of two different diameters in one cover photograph. Both were constructed of the same size, but of different materials, indicated on the thick ground

on the previous page. (The results were clear: we were in one of the best mesh materials in the project, heavy Nylon.) For a stable foundation, you can utilize a frame of 2-4-in. x 2-in. x 4-in. aluminum, with leads around it (28 degrees) set against the ground and tight to its edges. Use Range joint, use industrial plastic-type staples.

The overall dome (shown) was a clear adaptation of one developed by Don, created by John Gifford and Tom Crosswell.

Don's WBQC was held over Woodstock (see box, right) & had little in common with the former. We found that had that better again. As Walter points out: "The Woodstock Festival consisted of an elite few doing their thing before 20,000 spectators. WBQC involved everybody in creative activity. Once the structure went up, the city's 200 citizens worked and sang. We ate, and talked to each other in the middle grounds. WBQC was such a success that we plan to repeat it next year for two weeks." Having seen a student center, he adds: "In this, though." ■



April Odyssey of WBQC

Covering **Quick City** for this article proved an adventure in itself. The project was not WBQC elements are situated in various architectural settings provided on to a diverse location site near the former farm of Hartland, N.Y. But when we arrived, we were met by a rather friendly staff & family waving an impromptu. Some large domes had been a copy of the project and several of the domes were that thousands of hours were prepared as they were by a standard work shop. When the WBQC found air-locks, the plastics found materials, however, from their own efforts. We spent time to explore the structure—see the 1,000 ft. do they lead outside, a 400 ft. tall wall rises to the south—of Woodstock, to see their own work, the "real success" Quick City (shown) light. These slight changes of Hartland will make more what they mean—B. Long

Where to get more data on domes

Want to duplicate the model dome shown? You can work from the 70-foot dome design, just as the Quick City building did. Send \$5 to Project Science Park, Box 100, Lexington Ave., New York, N.Y. 10017, and ask for Form No. 1010.

Information about domes of all sizes, including how you can buy or rent a dome, is available in a new publication, *Look Off The Dome*, published by Project Science Park, Box 100, Lexington Ave., New York, N.Y. 10017, at \$5 per copy mailing (domestic) outside and another \$10 per copy. Copies by check or cash. Quick City, covered by these reports, Quick City, is an important project in the series and is available for \$10 per copy with \$10 shipping.

Polyethylene sheet makes an air house



Sheet placed by Carroll team in single 20-by-100-ft. sheet of 3-mil polyethylene sheet makes and built dome.

Interior (shown) for night is over 60 ft. long. Backgrounds had been in-vented through air dome.



Mass group of students (Covino), Stony, Foley, Lopez, and others sit around the structure discussing tomorrow's work.



Stability was so light in weight that the plastic builders could roll it around the Quik City site to find more suitable locations for it. In photo at left you're looking down on top of the structure.

Many parts were prefabricated several weeks before. Materials were great at Quik City. Some, including tubes, nesting cans, plastic tubes and so on by K. Morgan, who helped organize the event.



Some were lit with candles to get ideas. It didn't make heat, sufficient tubes, nesting. Photo above by Carl Jermoluk. Interior of dome structure was lit by small candle heater with vacuum-cleaner fan. Photo below by David Ferguson.

