

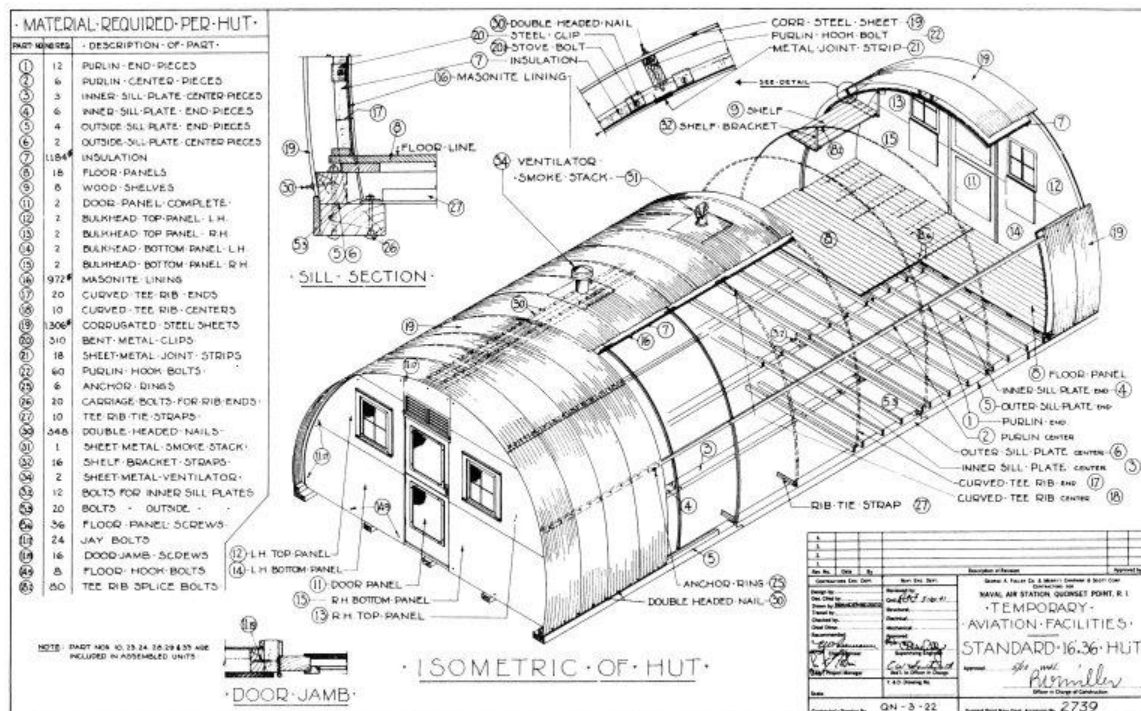
Quonset huts

Peter Lobner, 15 June 2020

1. The Quonset hut during WW II

During WW I, the British developed a light, prefabricated, transportable structure called a Nissen hut. In early 1941, the US military examined the Nissen hut and decided to develop it further. In March 1941 the Navy placed a contract with George A. Fuller Company in West Davisville, Rhode Island to design and produce a hut to Navy specification within two months. The result was the first generation of the demountable, galvanized steel huts that became a common sight in most theaters of WW II. The hut's name came from the site of their first manufacture at Quonset Point, at the Davisville Naval Construction Battalion Center in Davisville, Rhode Island.

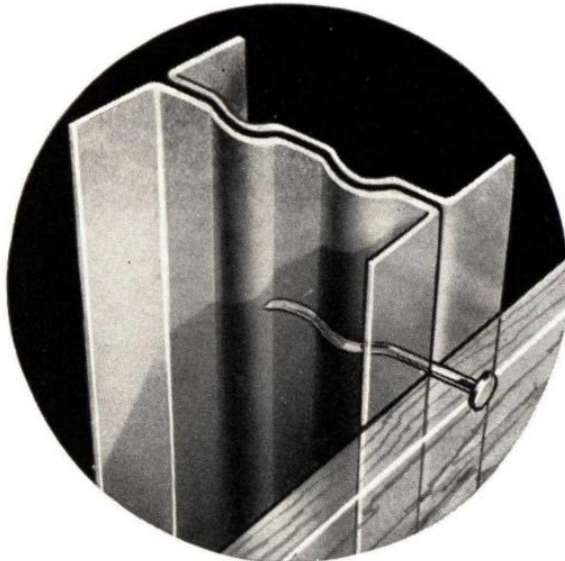
Following is a summary of the five generations of Quonset huts that were produced during WW II, based on information on the Seabee Museum and Memorial Park website and other sources.



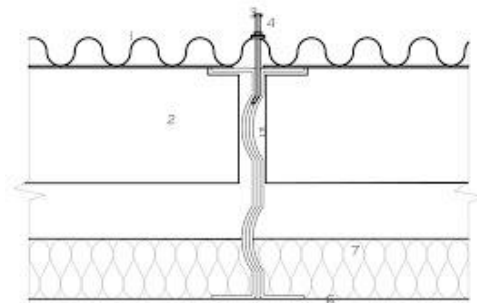
First generation 16 x 36 T-Rib Quonset hut isometric view. Source: George A. Fuller Company via <https://images.lib.ncsu.edu/>

day. This hut was larger, at 20 feet by 48 feet (960 ft²), and used 3-1/2 tons of steel, a half-ton less than the T-Rib Huts. The arch-rib was semi-circular with a 4-foot knee wall.

The Stran-Steel metal framing system, developed in the 1930s by Great Lakes Steel Corporation, Detroit, MI, was designed to precisely replace wood studs, joists, rafters, and sill plates in commercial and residential construction. The key to this framing system was its lightweight structural I-beam that was formed by welding two rolled steel channels back-to-back. A nailing groove in the curved space between the channels deformed the nails and held them in place by friction. Use of double-headed nails enabled the nails to be removed later with minimal damage to the structure.



● STRAN-STEEL'S patented nailing groove is a curved space between two strips of channel-shaped steel welded back-to-back to form the member. Nails driven through collateral materials into this space are clinched in a grip of steel.



1. Straight Corrugated Sheets
2. Stran-Steel Half Purlin
3. Double Headed Nail
4. Lead Washer
5. Stran-Steel Rib
6. Masonite
7. Insulation

Quonset Hut
Stran-Steel Model
Wall Detail

Stran-Steel for permanent construction with single-headed nails (left) and for demountable Quonset hut construction with double-headed nails (right). Sources: Stran-Steel Corporation via the Internet Archive (left), and Chiel & Decker, "Quonset Hut: Metal Living for a Modern Age" (right)

4th-generation: In the later fourth design, which was manufactured by Stran-Steel, the Navy eliminated the knee wall and returned to a full semi-circular design; 20 by 48 feet in size. This change simplified

manufacturing and erection, and significantly reduced the shipping volume per hut. These huts were designed with and without dormer windows.

5th-generation: The fifth design retained the full semi-circular design and size (20 by 48 feet), but used flat corrugated siding mounted horizontally for the sides while retaining the curved plates for the roof ridge. This arrangement reduced the need for special manufacturing of curved corrugated siding panels. Dormer windows were replaced by either translucent corrugated panels or flat steel framed windows. Toward the end of 1943, 4-foot overhangs were added to the Quonset hut to prevent driving rains and sunlight from entering the huts. These huts had the same floor space and measured 20 by 56 feet, including the overhang. As finally developed, Quonset huts required less shipping space than did tents with wood floors and frames, when equal numbers of people were to be accommodated.

Various other versions of metal arch buildings that resembled Quonset huts were used in WW II, including some large units measuring 40 x 100 and 40 x 160 feet that were developed for use as barracks and warehouse.

Between 150,000 and 170,000 Quonset huts of all models were manufactured during World War II.

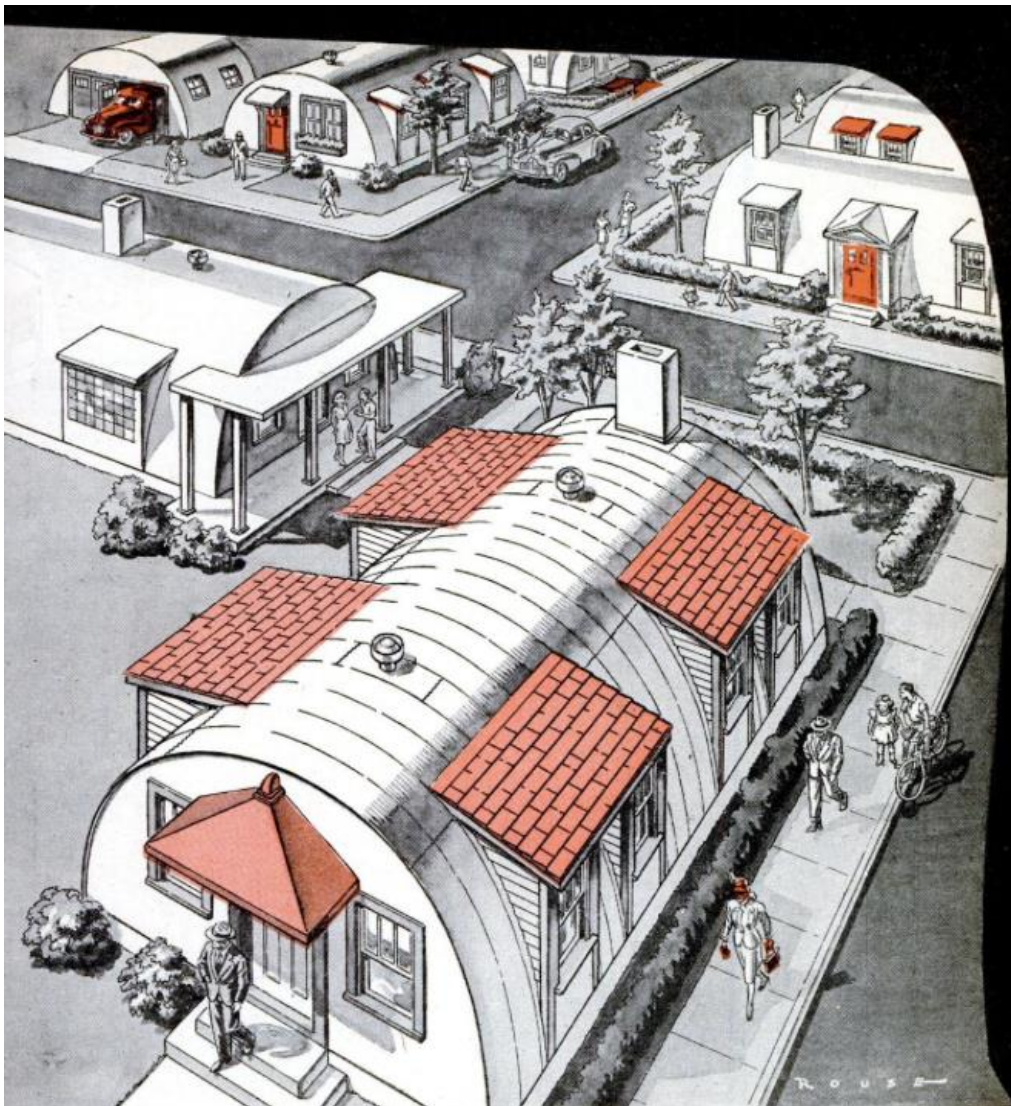
2. Post-war re-purposed Quonset huts

After the war, many thousands of surplus Quonset huts and other war surplus housing units were acquired by municipalities for use as temporary, stop gap, public housing, primarily for returning veterans and their families. Typically, each 20 x 48 foot Quonset hut was erected on a concrete slab floor and partitioned into two 20 x 24 foot (480 ft²) apartments, each consisting of a living / dining room, two bedrooms, a bathroom, and a kitchen.

In addition, many colleges and universities, struggling with burgeoning post-war enrollment by veterans funded by the GI Bill, acquired Quonset huts and other war surplus housing units for dormitory-style student housing and staff apartment housing.

In this article, we'll take a look at the following examples of surplus Quonset hut use in the immediate post-war period.

- Brooklyn, NY post-WW II veteran's temporary housing
- Roger Young Village, Los Angeles veteran's temporary housing
- Michigan State University (MSU) post-war temporary student housing
- Colorado State University (CSU) Quonset Village temporary student housing



*An idealized 1946 view of a surplus Quonset hut village.
Source: Popular Science Monthly, March 1946*

Many of the post-war temporary housing projects lasted longer than originally expected. In November 1949, the federal government proposed to demolish all of the temporary housing projects. By the mid-1950s, many had been closed down, including the two examples in Brooklyn, NY and Los Angeles, CA. The Quonset huts had served their purpose as stopgap housing and were replaced by various types of permanent conventionally constructed housing units.

Brooklyn, NY post-WW II veteran's temporary housing

To help ease the post-WW II housing shortage, New York City's "master builder," Robert Moses, who was then responsible for the city's public housing projects, proposed erecting Quonset huts on vacant land in Brooklyn and Queens. After heated public debate, NYC agreed to use 500 surplus Quonset huts as temporary housing. Sites were agreed on acres of land on Long Island:

- Canarsie, Jamaica Bay and the area along the Belt Parkway in the south of Brooklyn
- Jackson Heights, Middle Village and Corona in Queens.



*A row of Quonset huts with overhangs in Canarsie. Brooklyn, NY.
Source: Brooklyn Public Library via 6sqft.com, 21 April 2017*

The Quonset huts were used as housing units until about the mid-50s when more permanent housing became available. The Quonset huts were taken down and sold to the public for a variety of uses.

You'll find more information on Quonset hut villages in Brooklyn and Queens at the following links:

- Dana Schultz, "The history of NYC's Quonset Huts, Robert Moses-era veterans housing," 6sqft, 21 April 2017:
<https://www.6sqft.com/the-history-of-nycs-quonset-huts-robert-moses-era-veterans-housing/>
- "Brooklyn Housing Shortage (1946)," The Brownstone Detectives, 27 March 2019:
<https://www.brownstonedetectives.com/the-brooklyn-housing-shortage-1946/>

Roger Young Village, Los Angeles veteran's temporary housing

Three months after the end of WW II, the Federal Public Housing Authority announced in December 1945 that Los Angeles was eligible to receive surplus military dwellings, such as Quonset huts and barracks, along with funds to convert them to temporary domestic use. One of the products of this announcement was Rodger Young Village, a public housing project built in Los Angeles by the city's Housing Authority to provide temporary housing for veterans returning to the Southern California area after World War II.

Built in about two months during the spring of 1946 on a 160-acre tract of city land in Griffith Park, on the former site of Griffith Park Aerodrome, the Village consisted of 750 late-model Quonset huts that were moved from the naval facility in nearby Port Hueneme. The cost to tear down, move and reassemble each Quonset hut was estimated at \$1,800. Each Quonset hut was partitioned into separate duplex apartments, providing housing for 1,500 families, over 5,000 persons. The Village was dedicated on 27 April 1946. More than 13,000 veterans applied for the 1,500 available housing units.



Griffith Park Aerodrome in 1937. This became the site Roger Young Village. Source: aerofiles.com via valley Relics Museum



Roger Young Village after completion. Source: White's Studio via Los Angeles Public Library, Photo Friends



Quonset hut construction at Rodger Young Village. Source: Photo by Louis C. Stoumen, Housing Authority of the City of LA



Electrician connecting wires to Quonset hut homes. Source: Housing Authority Collection, photo by Louis Clyde Stoumen, circa 1950



A mature Quonset hut neighborhood. Source: Housing Authority Collection, photo by Leonard Nadel, 19 July 1950.

When the federal government proposed in 1949 to demolish all of its postwar “temporary” emergency housing projects, Los Angeles requested and was granted relief because it had an ongoing shortage of affordable housing. In January 1952, the LA City Recreation and Park Commission refused to renew the city’s Housing Authority’s lease on the Rodger Young property, claiming that the “emergency housing shortage no longer exists.” The city also had other development plans for that tract of land.

Rodger Young Village was closed in 1954, and today, no trace remains. The site is now home to part of the Griffith Park Zoo and nearby freeway interchanges.

You'll find more information on Rodger Young Village at the following links:

- J. H. Graham, "Home Sweet Hut: Rodger Young Village," 25 September 2017: <https://jhgraham.com/2017/09/25/home-sweet-hut-rodger-young-village/>
- Annie Murphy, "The Small Town in a Big City – Life at Rodger Young Village, Los Angeles Public Library, Photo Friends, 18 January 2017: <http://photofriends.org/the-small-town-in-a-big-city-life-at-rodger-young-village/>

Michigan State University (MSU) temporary student housing

An 9 September 2016 article posted on the MSU archives reports: "After the end of World War II, soldiers returning home were looking to continue on with their lives, by either returning to work, getting married and starting a family, or attending school. Now that returning soldiers had access to funding from the G.I. Bill..... there was one huge problem: where to put the influx of students?..... In 1946, the population of the campus doubled in size. Campus went from 7,500 to 15,000 students."

Part of the solution was 104 Quonset Huts, which were used to house 1,456 single men. In addition, a variety of other war surplus housing units were acquired and spread across the campus to meet student housing needs. While the Quonset Huts were intended for temporary use, some stood until the late 1980s.

For more information on post-WW II temporary student housing at MSU, see the article, "History of Temporary Housing on Campus after WWII," at the following link:

<https://msuarchives.wordpress.com/2016/09/09/history-of-temporary-housing-on-campus-after-wwii/>



Aerial View of the MSU campus showing the Temporary Housing Area in 1946. Source: Archives@MSU



MSU Quonset Hut Village, 1946. Source: Archives@MSU

Colorado State University (CSU) Quonset Village student housing

At CSU (then Colorado A&M), in Ft. Collins, CO, the number of enrolled veterans increased 435% during the 1945 - 46 academic year. To meet the demand for student housing, the university established a Veteran's Village created with a combination of war surplus Quonset huts, trailers and prefabricated houses.

By 1961, most of the Quonset huts from Veteran's Village had been removed to make way for permanent residential halls. CSU offered the old Veteran's Village huts for sale to the general public.



*CSU post-WW II Veterans Village.
Source: The Coloradoan, June 2019*



CSU Quonset hut.

Source: The Coloradoan, June 2019

For more information on the CSU Veterans Village, see the following online resources:

- Adam Thomas, "Soldiers of the Sword, Soldiers of the Ploughshare - Quonset Huts in the Fort Collins Urban Growth Area - Historical Context and Survey Report," Historitecture, LLC, July 2003:
http://www.historitecture.com/pdf/quonset_huts.pdf
- Erin Udell, "What ever happened to the huts at Colorado State University's Veteran's Village?" The Coloradoan, 21 June 2019:
<https://www.coloradoan.com/story/life/2019/06/21/colorado-state-university-veterans-village-quonset-huts-fort-collins-history/1490954001/>

3. Relevance of Quonset huts today

Many durable post-war Quonset huts survive today in the US and are in use as outbuildings, museums, businesses, homes and garages.

The basic metal arch design element of the Quonset hut has evolved into a range of modern metal arch structures. Several firms supply prefabricated steel arch structures for commercial or residential use. Like the WW II Quonset huts, modern steel arch structures have a reputation for durability, strength, and ease of construction. Many of these are quite utilitarian, while some have strong, modern architectural content. A few examples are shown below, including a multi-family Quonset hut development that bears more than a passing resemblance to the idealized view of a Quonset hut village in the March 1946 issue of Popular Science Monthly magazine.



Berkshire Bird Paradise Sanctuary and Botanical Gardens:
<https://www.steelmasterusa.com/news/five-mind-blowing-quonset-hut-builders-will-inspire/>



Two arched structures comprise the “G Home” in Henderson, NV.
Source: <https://www.steelmasterusa.com/news/an-igloo-shaped-house-in-nevada/>

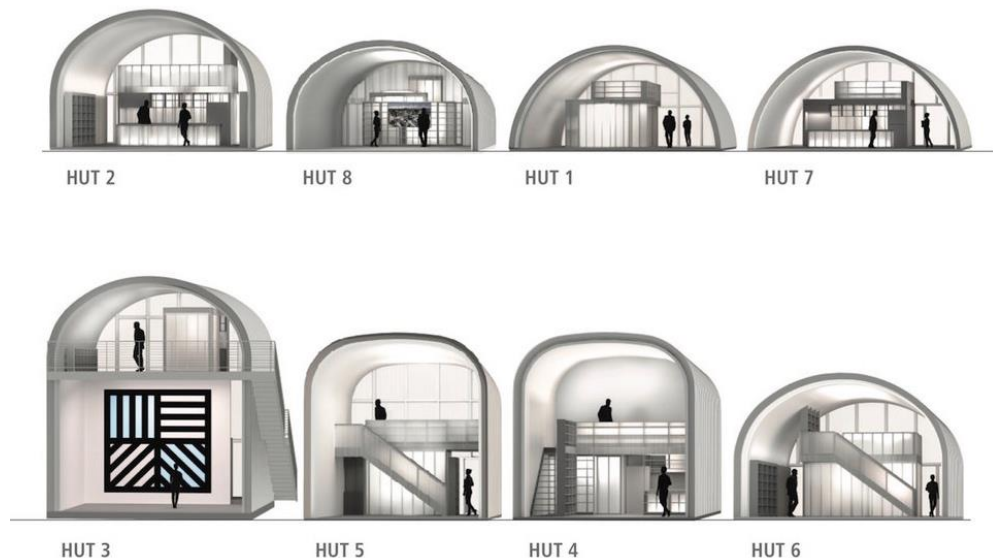


33' x 44' prefabricated steel arch residence in Joplin, Missouri.
Source: <https://www.steelmasterusa.com/news/quonset-hut-home-safe-easy-affordable/>

Edwin Chan teamed up with developer Philip Kafka and his real estate company, Prince Concepts, to create a unique multi-family steel Quonset hut development known as True North Detroit. This small development is comprised of eight prefabricated modern Quonset huts, several of which are designed as live/work spaces. True North Detroit was one of the winners of the 2017 Architects Newspaper's Best of Design Award and one of six finalists for the Mies Crown Hall America's Prize.



Modern Quonset hut multi-family development True North Detroit.

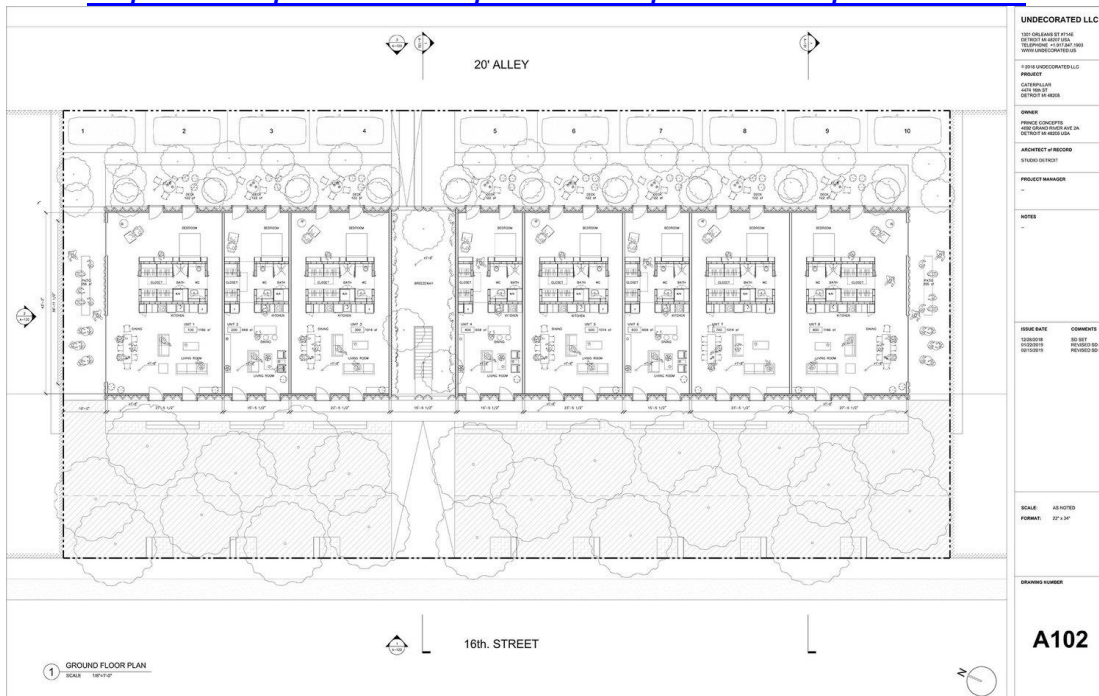


Eight different style Quonset huts in True North Detroit. Source, both graphics: <http://www.princeconcepts.com/true-north-detroit>

A second Prince Concepts modern Quonset hut development in Detroit is known as The Caterpillar, which will have six residential units and two live/work units in one large 46' x 192' SteelMaster Q-Model hut with 8,700 ft² of floor space.



Prince Concepts' The Caterpillar during construction. Source: <http://www.princeconcepts.com/wip-the-caterpillar-detroit>



Prince Concepts' The Caterpillar floor plan. Source: <http://www.princeconcepts.com/wip-the-caterpillar-detroit>

4. For more information, see the following resources:

Quonset hut wartime history:

- “Quonset Hut,” Naval History and Heritage Command, 9 April 2008:
<https://web.archive.org/web/20161023013826/https://www.history.navy.mil/browse-by-topic/organization-and-administration/commands-and-installations/quonset-hut.html>
- “Quonset Huts,” Seabee Museum and Memorial Park, Rhode Island: <https://www.seabeesmuseum.com/visit/quonset-huts>
- Brian Wallin, “The Quonset Hut: A Rhode Island Original That Went to War – Worldwide,” Varnum Continentals, 10 April 2016: <http://varnumcontinentals.org/2016/04/the-quonset-hut-a-rhode-island-original/>
- “US Navy Quonset Hut: Origin of Design,” quonset-hut.blogspot, 10 December 2012: <http://quonset-hut.blogspot.com/2012/12/us-navy-quonset-hut-origin-of-design.html>
- “Quonset Huts – The History of Metal Arch Buildings That Accompanied the WW II Shelter Needs,” PowerBilt Steel Buildings, Inc.: <https://powerbiltbuildings.com/quonset-huts-the-history-of-metal-arch-buildings-that-accommodated-the-wwii-shelter-needs>
- “Quonset Hut: Improvements and Modifications,” The Castrum and the Quonset Hut, 19 January 2010: <http://castrumandquonset.blogspot.com/2010/01/quonset-hut-improvements-and.html>
- “Stran-Steel Construction Data,” Stran-Steel Division, Great Lakes Steel Corporation, Detroit, MI, 1938: <https://archive.org/details/Sweets1733StranSteelConstructionDataByTheStranSteelDivisionOfTheGreatLakesSteelCorporation/page/n15/mode/2up>
- Digital copies of manuals for several models of Quonset huts are available on the Seabee Museum website at the following link:
<https://www.history.navy.mil/content/history/museums/seabee/explore/online-reading-room/Publications/quonset-hut-manuals0.html>

Quonset huts and their use as stop gap housing after WW II:

- Hartley E. Howe, “Stop Gap Housing – Millions of Families Can’t Wait for Permanent Homes,” Popular Science Monthly, Vol. 148, No. 3, pp. 66 – 71, March 1946:
https://books.google.com/books?id=PSEDAAAAMBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
- Michael Lamm, “The Instant Building - Simple to manufacture and easy to assemble, the Quonset hut outlasted the war for which it was built,” Invention & Technology, Winter 1998:
<https://www.inventionandtech.com/content/instant-building-1>

Relevance of the Quonset hut today:

- Chris Chiel and Julie Decker, “Quonset Hut: Metal Living for a Modern Age,” Princeton Architectural Press, New York, NY, 31 December 2005, ISBN-13: 978-1568985190
- Henry Parker, “Quonset Hut Homes: The Definitive Guide,”
<https://homereference.net/quonset-hut-homes/>
- H. Bosler, “Quonset Hut: A Modern Dwelling,” Mid-Century Modern Groovy:
<https://www.midcenturymoderngroovy.com/?p=8259>
- “True North: Detroit,” Prince Concepts:
<http://www.princeconcepts.com/true-north-detroit>
- “The Story Behind Detroit’s Quonset Hut Community ‘True North’”, <https://www.steelmasterusa.com/news/behind-true-north-detroit/>
- “Detroit Quonset Hut Village Wins 2017 Best of Design Award,” Steelmaster Building Systems:
<https://www.steelmasterusa.com/news/detroit-quonset-hut-village-wins-2017-best-design-award/>
- “The Caterpillar: Detroit,” Prince Concepts:
<http://www.princeconcepts.com/wip-the-caterpillar-detroit>