Credit Human: setting new expectations of resilience, efficiency and community deep in the heart of Texas.

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PHIUSCon, November 2023
The Hennigans were there to discuss a renovation of the home they had just bought in the same neighborhood they were living in with their 2 daughters. But the conversation started with a question, “What’s possible?”
Credit Human

- 100% member-owned, member-directed and member-governed credit union, chartered in 1935
- Serve more than 200,000 members across the U.S. with branches in San Antonio and Houston
- Operated our headquarters out of a six-story building northwest of downtown San Antonio for 40 years
- Believe that being good stewards of our financial resources and good stewards of our environmental resources go hand-in-hand
CLARITY OF PURPOSE RESULTS IN CLEAR GOALS

Financial Stewardship

Environmental Stewardship

In Service of Community
THE 100 YEAR BUILDING

New Credit Human Headquarters in San Antonio, TX

- 12-Story, 215,000 ft², Office Building
- Fluid Applied Air Barrier
- Continuous Insulation
- Ground Source Heat Pumps
- Solar Array
- Water Catchment
- Automated Solar Shades
A HEALTHY, BEAUTIFUL PLACE OF WORK

Values in Action
Green Wall and Community Stairs

Kitchen
No Single Use Plastic, Orca, Healthy Cafeteria
OWNERS WANT 100 YR BUILDING BUT OFFERED BAU

Cut and Paste AIA MasterSpec®

**SECTION 238239 - HEAT TRANSFER**

**PART 1 - GENERAL**

1.1. APPLICABLE REQUIREMENTS:
   All work to be furnished and installed under this section shall comply with all the requirements of General Conditions, Supplemental Conditions, Division 01 - General Requirements, Section 230500 - Basic HVAC Materials and Methods, and other Sections in Division 23 specified herein.

1.2. SCOPE:
   All work to be furnished and installed under this Section shall comply with all the requirements of Division 01, and shall include, but not necessarily be limited to, the following:
   1. Unit heaters.
   2. Cabinet heaters.
   3. Wall mounted electric cabinet heaters.
   4. Ceiling mounted electric cabinet heaters.
   5. Convector.
   6. Electric Infra-red radiant heating
   7. Reheat coils (booster coils).
   10. Plate type heat exchanger.
   11. Small air-to-air heat recovery ventilators

Resistance to GSHP
Resistance to MW PV
Resistance to commit to air control
Resistance to High Efficiency ERV’s
Energy Model with BAU Defaults
Loads 30-40% High
IECC 2021 Commercial Energy Code

Site EUI for this sized Office BLG= ~35 kbtu/ft²/yr

San Antonio and the 24 other cities participating in the ACCC are on track to collectively reduce emissions by 32% and surpass 2025 Paris Climate Goals.

BUY IN FROM THE CITY- 2030 CARBON REDUCTION GOALS

Council approves Credit Human incentives

- Decade-long 100 percent tax abatement
- 5-year tax rebate with a total value capped at $5.9 million

Rationale for the Incentives

- Retention of ~500 jobs in San Antonio
- Mixed Use Space Development in Urban Core
- CH Investment in Sidewalks, Streets and Parks
- Creation of Community Spaces Onsite

CLEAR EXPECTATIONS OF PERFORMANCE

Excellent Coordination Lead by GC

Where There’s a Will...

The GC and site crews had never worked on a project like this before.

The owners set clear expectations for coordination and collaboration of all team members: GC, Subcontractors, Architects, Manufacturers and Owners.

One of the most impressive accomplishments was the successful installation of a high quality air barrier...
GROUND COUPLED VRF HEAT PUMP

- 150 Wells
- 310’ depth
- Ground Source High Efficiency VRF
- Meets 100% Heating Load
- Meets ~70% Cooling Load
- 2 Cooling Towers for Peak Load
WELLS AND PUMPS
HVAC EXPOSED

Typical Mechanical Layout

Exposed Infrastructure
BEST IN CLASS VENTILATION

High Efficiency ERV’s

Dehumidification/Conditioning Coil
BUILDING AUTOMATION SYSTEM
AVOIDING 1.25M GALLONS OF H₂O/YR

Water Catchment Systems = 140,000 Gallon Capacity

80% of Runoff is Retained Onsite

Use of Grey Water for Toilets and Irrigation

Reduction of Cooling Towers from 6 to 2 Adds to the Water Savings in Addition to the Energy Savings
LARGEST PV ARRAY ON A BUILDING IN TEXAS

- 1 MW Installation
- Bidirectional panels on the edges
- Designed for 50% of Energy Usage
LIGHTING, PLUG LOADS AND SHADES

- Lights on Occupancy Sensors + Time Delay Off
- Work Stations and Desks are on Individual Circuits that are Shutdown in the Evening
- Shades Automatically Raise and Lower with Season and Sun Exposure
BENEATH ALL THAT BEAUTIFUL BRICK...

• Fluid Applied Air Barrier
• Continuous Insulation
• Thermally Broken Windows
• Interior Insulation
They tested every brick tie...

Crew was specially assigned but had never done this before.

Result: 0.088 cfm/ft² @ 75 Pa
HOW’S THE PERFORMANCE?

- 2% Premium on BAU Construction
- 13 Year ROI

Energy Stats

216,275 sq. ft. building

13.8* EUI

Credit Human

In Comparison

63 EUI = Median for similarly-sized buildings

25 EUI

New Building Institute’s net-zero target for medium-sized office buildings smaller than Credit Human

* Based on energy data from February 2021 – January 2022
RESILIENCY IN ACTION: SNOWPOCALIPSE 2021

Ground Source + Envelope

- 12°F outside
- Building is 68°F
- Well Field 20°F Lift
PEOPLE WHO MADE IT POSSIBLE

Contractor
Joeris

Subcontractor
Alamo Door
Alpha Insulation
Altermann
Burditt Tile
Byrne Metals Corporation
Dynamic Systems, Inc.
Eilers Erection
Environmental Design
Hansco
J.E. Travis
Keystone
M&M Metals
Marek Bros.
Mesa Equipment Company
Mission City
Myrex Industries
NEC Signage & Architectural

American Construction Investigations
ASSA ABLOY Door Security
Cardno Haynes Whaley
Don B. McDonald
Don Penn
Earth Tech
Glumac
Kirksey
Lerch Bates
Mitsubishi Electric
One80 Solar
Pape Dawson
Persohn/Hahn Associates
Protection Development
Raba Kistner
Rialto Studio
The Parking Advisory Group
TSI Energy Solutions
AND WE’RE GONNA DO IT AGAIN...

This time in New Orleans.

Stay Tuned!