

**Engineering progress
Enhancing lives**

Design services

Complement your capacity and broaden your expertise with REHAU design services for plumbing and mechanical systems.

na.rehau.com/tools



The REHAU design services team works directly with architects, engineers, design-build contractors and owners throughout the design process, to effectively develop details, specifications and system requirements prior to project bidding.



You take pride in well-researched and executed projects. We have the resources to help you get there.



Complement your capacity. Broaden your expertise

The REHAU design services team includes engineers, designers, industry standards experts and PEXa piping specialists prepared to seamlessly integrate into your project team. Our team specializes in radiant heating, radiant cooling, snow and ice melting, geothermal exchange and plumbing systems aimed at maximizing energy efficiency and reducing building and operational costs.

With designers all over North America, our team is familiar with local and regional construction practices and provide on-site support when necessary. Coupled with a multitude of online resources and training materials, our team will assist with starting your project right and keeping it on-track.



Comprehensive Project Support



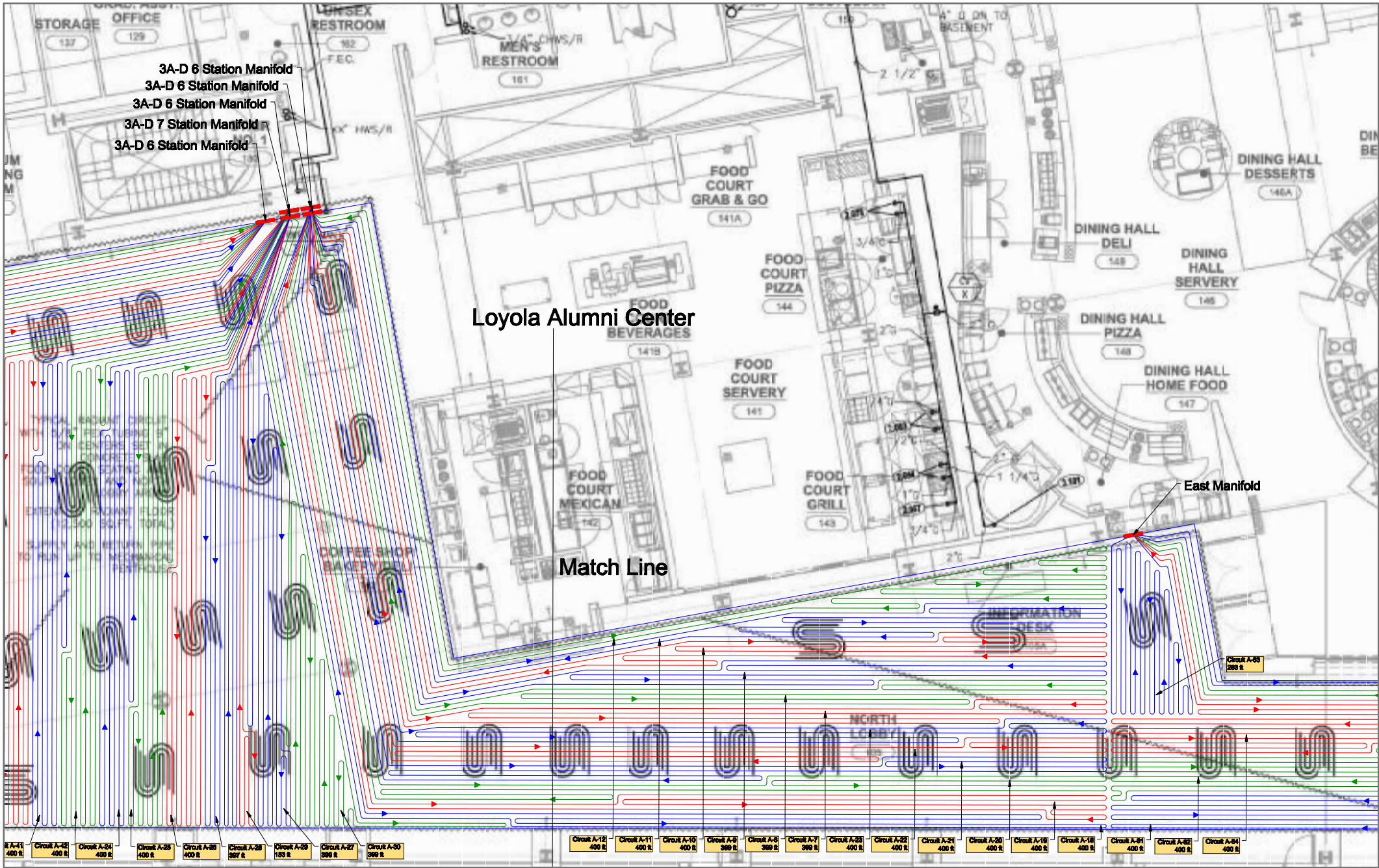
| Schematic Design | Design Development | Construction Documentation | Procurement/ Bidding | Final Construction |
|---|---|---|--|---|
| <ul style="list-style-type: none">• Integration of radiant heating/cooling systems to meet building performance goals• Initial output calculations• Reference project library | <ul style="list-style-type: none">• Piping layouts• Material estimates• BIM library• Product specifications• Technical resource center• Engineering calculations | <ul style="list-style-type: none">• Product submittals• Technical bulletins• Product instructions | <ul style="list-style-type: none">• Material take-offs• Prepare bill of materials• Assistance with analyzing quotes• Educate contractors on specified systems | <ul style="list-style-type: none">• Installation support• Product training and instruction• Technical documentation |

Request a design proposal at www.na.rehau.com/design

Radiant heating and cooling

Loyola University Information Commons | Chicago, IL

This incredible design incorporates radiant heating and cooling with an underfloor air distribution system (UFAD). The UFAD + radiant allowed the design team to maximize glazing which provides a panoramic view of Lake Michigan as well as transparency through to the campus.



“The radiant design was able to balance the heating and cooling requirements, help limit the underfloor ductwork and deliver a high-performing and architecturally challenging building.” - Jim Kamilis, Hill Group

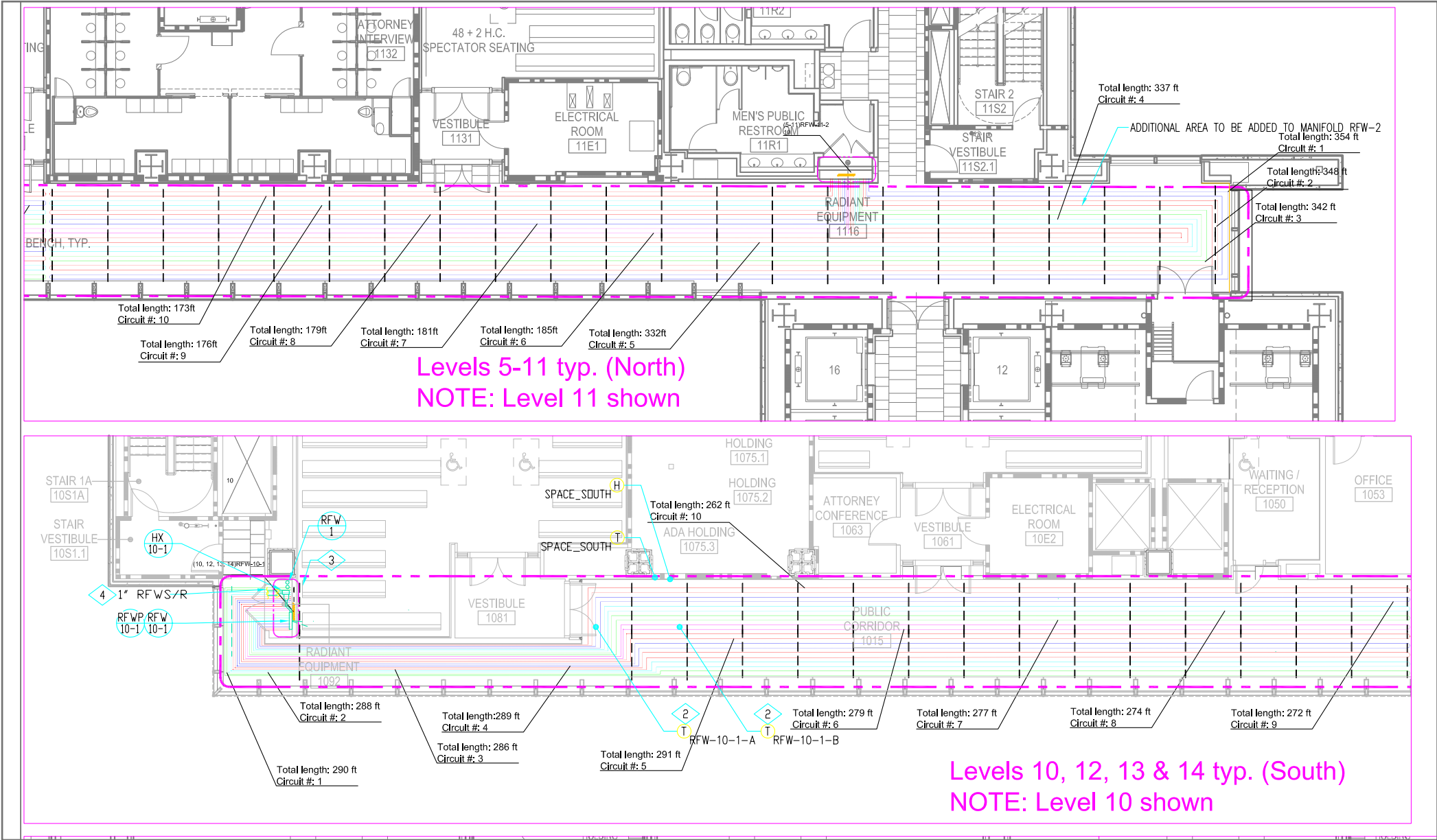
- Project highlights:**
- Goal to reduce consumption by at least 50% versus ASHRAE Standard 90.1-1999 base building
 - Design includes a 40% glass building envelope to integrate Lake Michigan views
 - Dual-temperature radiant ceiling implemented with precast ceiling panels reduced ductwork for DOAS
 - Fifteen miles of RAUPEX® PEXa pipe
 - LEED® Silver certification



Radiant heating and cooling

San Diego Central Courthouse | San Diego, CA

A radiant heating and cooling system at this high-traffic public building reduced the amount of duct space needed in the public areas (air ventilation is still preserved) and minimized concerns about coordinating between ducts with electrical and other infrastructure. Utilizing a pre-assembled radiant mat provided significant time and cost savings for installers.



“Radiant makes the space really comfortable, especially when you’re dealing with large volumes of space. You don’t have to heat and cool the whole volume. You can just heat and cool the bottom strata where occupants are and it creates a comfortable environment,”
-Steve Sobel, Skidmore, Owings & Merrill

Project highlights:

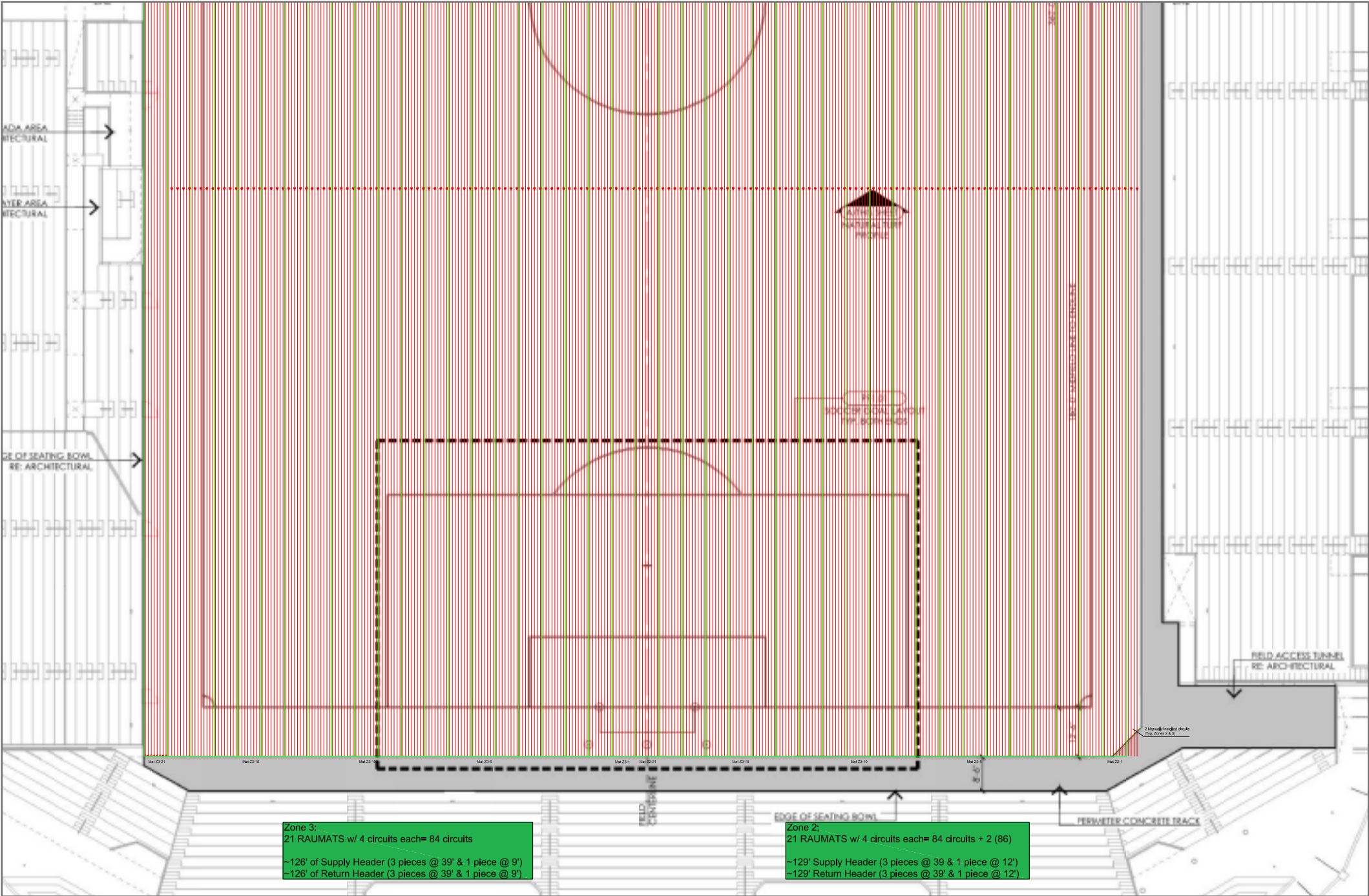
- 25-story tower is used by more than 1.2 million people annually.
- Large, airy multipurpose spaces are ideal opportunity for radiant
- 120,000 ft of RAUPEX PEXa pipe with pre-assembled RAUMAT™ radiant mat system
- LEED® Silver certification



Turf conditioning

Allianz Field, Minnesota United FC | Saint Paul, MN

While fans enjoy the many amenities of Allianz Field, they may not realize under the pitch is a system of nearly 28 miles of PEXa piping through which a warm, water-glycol solution circulates, allowing field managers to control the growing season and the dormancy of the Kentucky Blue Grass turf – with less maintenance. Keeping root zone temperatures steady means healthier, and greener, grass to withstand the rigors of play.



Project highlights:

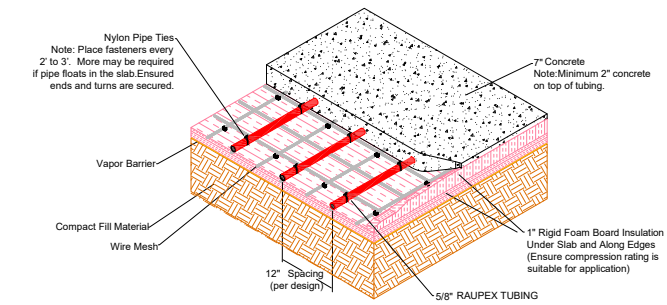
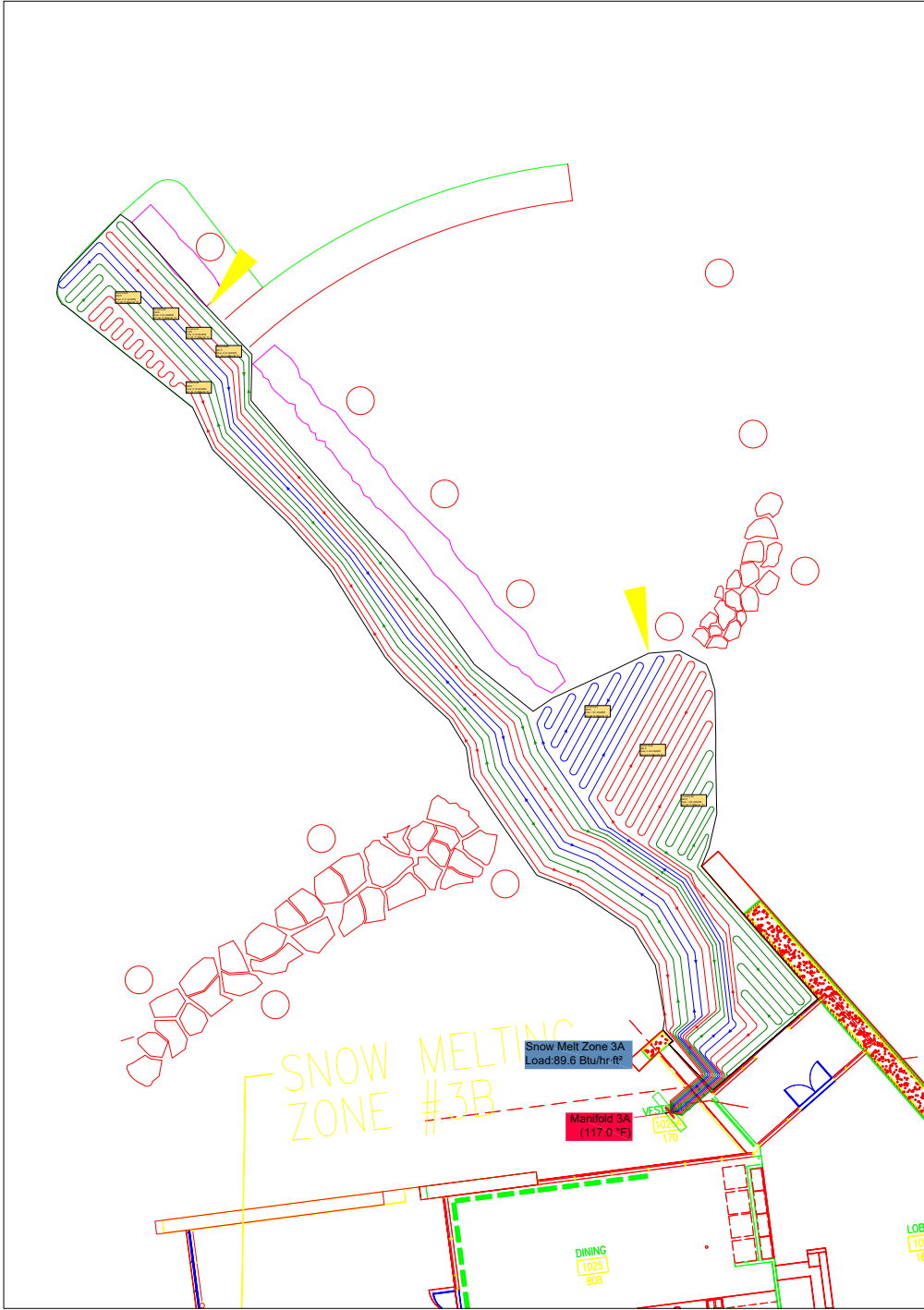
- 96,000 sq ft heated surface
- 86 prefabricated, custom-built RAUMAT radiant heating mats: 200 ft lengths with 1,600 ft of RAUPEX pipe fastened to each mat
- 26 custom-built HDPE headers
- 4 heating zones to ensure even temperature profile of entire field.
- Root zone design targeted 60°F



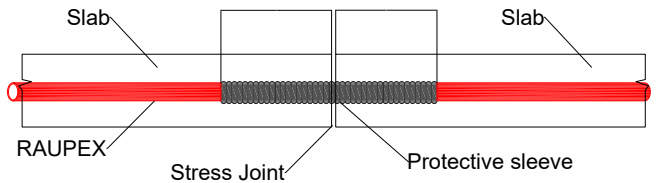
Snow and ice melting

High Altitude Aviation Training Site | Gypsum, CO

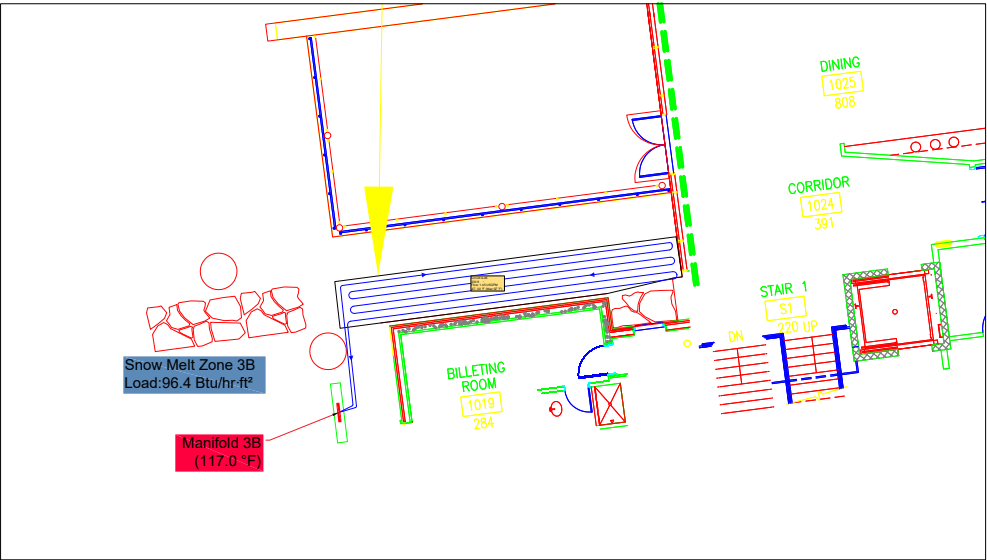
Run by full-time Colorado Army National Guard pilots, the High Altitude Aviation Training Site (HAATS) replaced an outdated facility with a state-of-the-art, 14-acre facility that allows the HAATS staff to more efficiently and effectively conduct operations while doubling student throughput. Radiant heating and cooling technology was used in the high-ceilinged hangar and snow and ice melting (SIM) zones.



SIM INSTALLATION-CONCRETE
Nylon Pipe Ties
SIM.008



Slab Installation
Protective Sleeve in Stress Joints



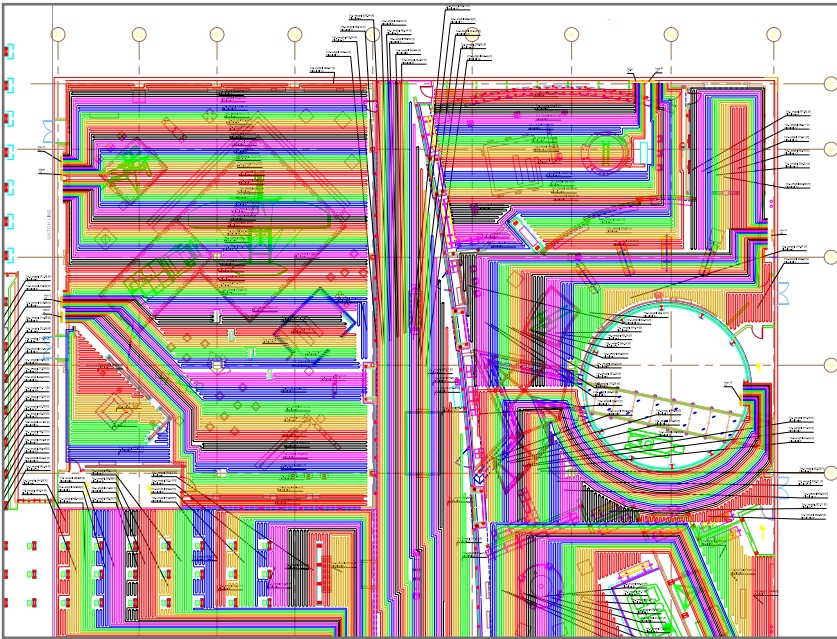
Project highlights:

- Six snow and ice melting zones, four conditioning zones,
- Eight 3-way mixing valves for slab temperature control
- Pre-insulated PEXa pipe runs underground mains from mechanical room to fan coils, radiant and SIM systems
- LEED®-NC Silver certified



Radiant heating and cooling

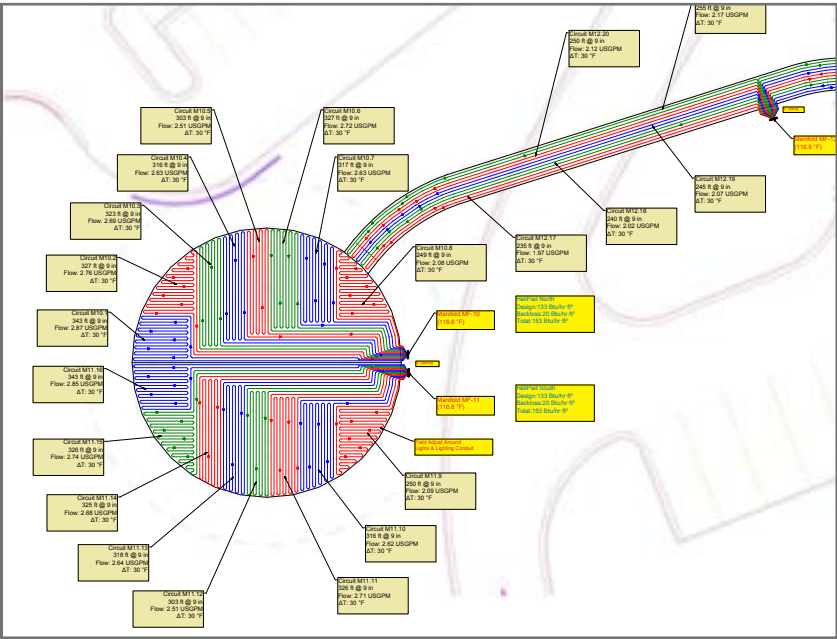
National Museum of the U.S. Army | Fort Belvoir, VA



- Project highlights:**
- Integrated radiant heating and cooling with DOAS reduces HVAC energy up to 35%
 - 108,000 ft of RAUPEX pipe; 288 circuits; 24 PRO-BALANCE® manifolds
 - INSULPEX® pre-insulated PEXa piping took hydronic distribution underground for added protection against leaks in overhead pressurized pipe.
 - Distribution piping below ground contributed to significant reduction of labor costs and eliminated overhead work.

Snow and ice melting

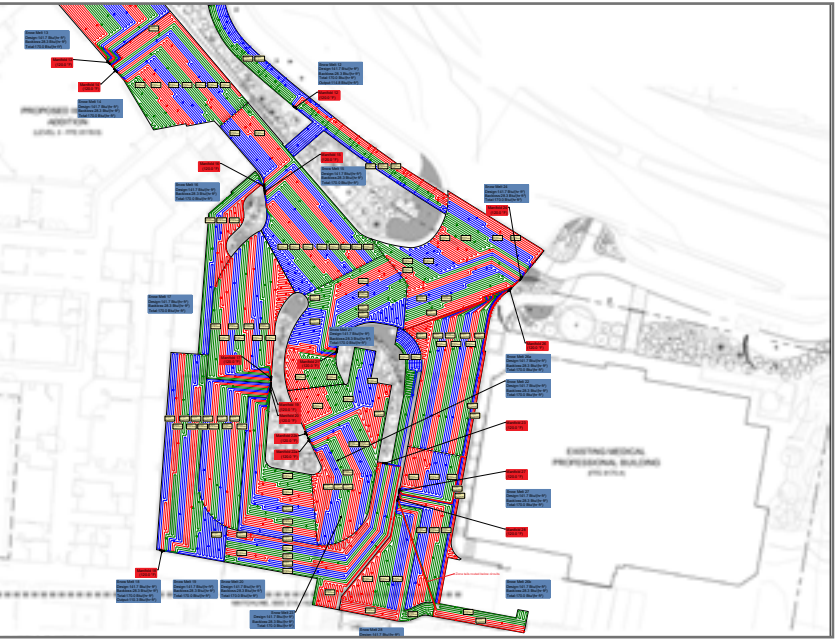
Adena Regional Medical Center | Chillicothe, OH



- Project highlights:**
- 10,500 sq ft heated surface for helipad as well as patient and emergency entrances ensures healthcare can perform their jobs efficiently no matter the weather conditions.
 - 14,600 ft of RAUPEX pipe; 52 circuits; 7 PRO-BALANCE manifolds
 - Capacity of 1,500,000 Btu/hr
 - INSULPEX pre-insulated PEXa employed for hydronic heat transfer from outdoor, underground manifold vaults to indoor mechanical room.
 - Automated system activation eliminates manual monitoring and operation.

Snow and ice melting

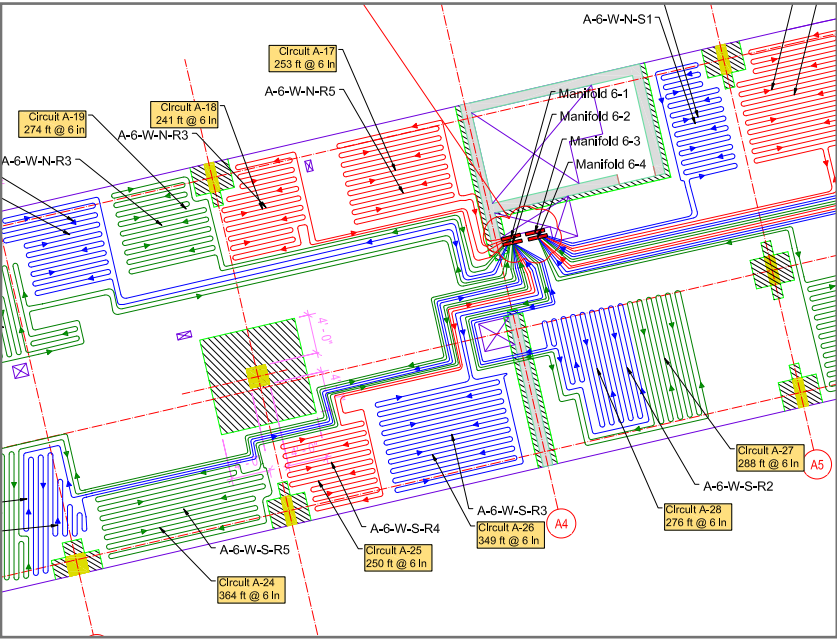
Vail Valley Medical | Vail, CO



- Project highlights:**
- 39,259 sq ft SIM system for driveways and walkways for safety of patients, staff and visitors.
 - Eliminates need for manual snow removal at medical facility in mountain town that averages 189 ft of snowfall per year.
 - 61,000 ft of RAUPEX pipe; 199 circuits; 29 PRO-BALANCE manifolds
 - INSULPEX pre-insulated PEXa piping for distribution reduces heat loss in energy transfer

Radiant heating and cooling

University of Chicago North Residential Commons | Chicago, IL



- Project highlights:**
- Targeted a EUI of 56.6 kBtu/ft2, 41% reduction compared the the average residence hall in Chicago and 1/3 of the EUI of its predecessor
 - Eliminated 1,920 metric tons of CO₂ emissions per year
 - 400,000 sq ft; houses 800 students
 - 300,000 ft of RAUPEX pipe
 - LEED® Gold certified

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