

Nome Foundation Leveling

by Samuel Mitchell



Pat standing next to the Welcome to Nome sign

In June, a foundation leveling project with AHFC called Pat and me out to Nome. This was my first time off the Alaska road system and Pat's first time to Nome. Though summer was officially only 2 weeks away, the patches of snow in the hills and 35 to 40-degree temperatures suggested a completely different season.

After inspecting a handful of buildings the first afternoon, Pat and I took the evening to explore the area. The significance of mining to the community was evident from the start. Driving by the port of Nome, we saw numerous makeshift dredges that are used to mine the bottom of Norton Sound, as seen on the reality TV



Pat shooting level

show Bering Sea Gold. Styles ranged from jacked-up excavators, as pictured, that crawl along the bottom to old barges retrofitted with excavator arms (or siphons) and sluice boxes.

We then worked our way up to Anvil Mountain to explore the White Alice antenna site, a 1950s-era radio communications site. We headed off the ridge as a weather system blew off the Sound. Coming back down the mountain, we sighted a large herd of musk ox. Per a local, these animals are often a nuisance to the town because they come down from the mountain and knock down the crosses and grave markers in the cemetery.

Pat and I wrapped up the inspection of the 30+ units the next day before catching the evening flight back to Anchorage. The thawing permafrost was evidenced by some units being up to 17 inches out of level – Yes, I am holding the camera level for that photo. Thankfully, Jack's flexible utility connection designed back in the 90s wasn't dumping sewage on the ground – good job!



Samuel enjoying the view of the Musk-ox and White Alice



Sloping home due to thawing permafrost.

The Polaris Building

by Pat Brandon



Pat and Sean in their fancy Tyvek suits

In August, the Structural Department helped Nortech with a project to seal up the abandoned Polaris Building. Our project is to deal with environmental and safety hazards that the building currently poses to the public while funding can be secured to demolish the building. We helped with recommendations to seal up broken windows, clear loose debris from the roof, and recommendations to help deter pigeon roosting.

Due to environmental hazards within the building, Sean from Nortech and I had to don Tyvek suits with Powered Air-Purifying Respirators (PAPR) during the inspection.

The green shag carpet that you can see in the photo isn't actually carpet, that's moss! This photo is taken in the upmost floor of the 10-story building, in the old Tiki Cove Restaurant. The Tiki Cove closed their doors when the building itself closed in 2000. It's amazing to see what twenty years of environmental exposure can do to a building.



Looking out from the top floor of the Polaris Building



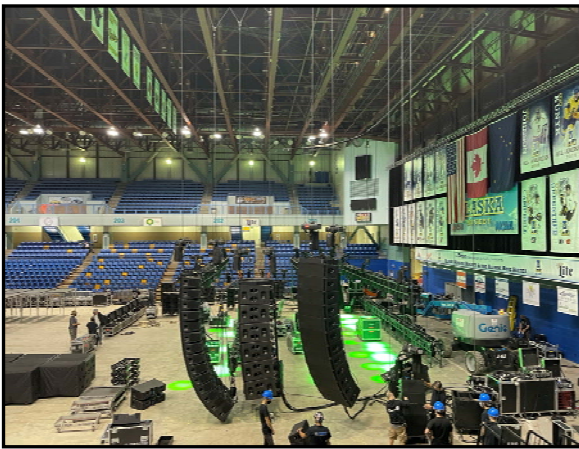
Inside the Tiki Cove— Note the carpet like moss

Tu-Chies Food Truck

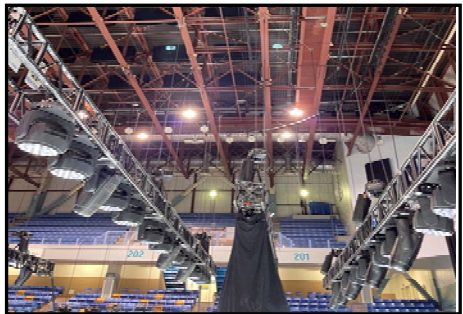
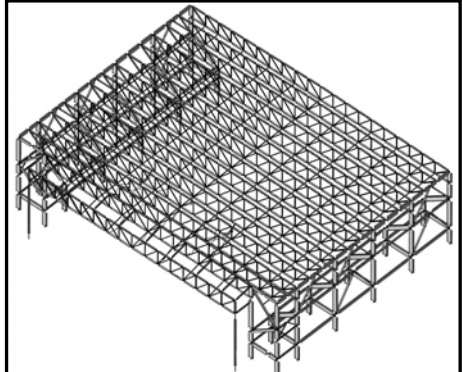


Foo Fighters

By Taylor Tharp



The Structural Department got the opportunity to evaluate the roof structure of the Carlson Center for hanging the Foo Fighters' equipment for the show in early August. This meant digging into the archives and modeling the long span trusses and stadium structure in our 3D structural analysis software and then analyzing it with all the



equipment hanging from it. The client, not Dave Grohl directly unfortunately, provided us with the equipment layout and weights, which included multiple light bridges, mirrors, and gigantic speakers. Of course, this project was no exception to last minute revision, thankfully Pat was on top of it and got a site visit out of the gig and the show was able to go off without a hitch. Although this was my first project of this kind, I'm sure it won't be the last.

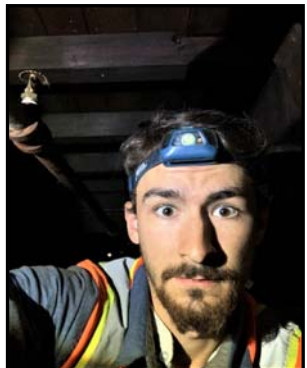
SS Nenana

By Samuel Mitchell



Last month I was excited to begin my structural inspection of the SS Nenana at Pioneer Park. This inspection by Design Alaska is the first step in reopening the boat to the public again, which is seen as a critical step in rebuilding public interest in this national historic landmark. Not only is the boat one of the last remaining, but it is also the largest of its kind.

My investigation started in hold below the cargo deck (the main deck most recently open to the public) to verify that the structure could handle the public occupancy loads. Over the course of three days, I worked my way to the upper decks. For being 87 years old, the boat is in respectable condition, so hopefully this next round of maintenance will be the start of another 87 years of showcasing this rich part of interior Alaska history. I feel truly fortunate to be able to participate in making this preservation happen.



FTW 434 Crane Structure

By Pete Jacobsen



The past year brought the Design Alaska structural team one of the most challenging and unique projects that any one of us has ever faced! The Army wanted a large bridge crane in two historic hangars on Fort Wainwright. The RFP suggestion of suspending the crane from the roof structure (which consisted of trusses spanning 160') wouldn't work- the RFP required the roof be analyzed and strengthened as required for the new crane loads. Our analysis indicated that strength wasn't the problem- stiffness was. The trusses would deflect too much under snow load for a suspended bridge crane to reliably function, and they could not economically be stiffened sufficiently, if at all. To quote the legendary structural engineer Hardy Cross, "strength is essential, but otherwise unimportant."

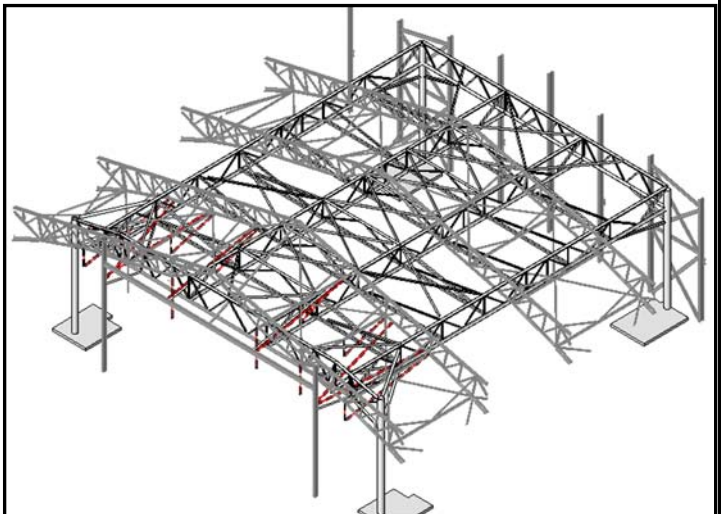
Our solution was an independent crane structure essentially isolated from the existing building. The cranes were to cover the maximum area possible, and the available locations of support columns were limited by egress pathways. A minimum hook-height of 25' was required by the RFP. The resulting structure spanned over a hundred feet in each direction. There were big challenges:

1. The structure needed to meet the Crane Manufacturers Association of America (CMAA) tolerances for fabrication and deflection, which are far more stringent than the American Institute of Steel Construction (AISC) requirements for buildings in the Code of Standard Practice.
2. The structure needed to be sufficiently clear of the existing building structure under snow, wind, and seismic deflections to prevent elements from banging into one another.

The design required extensive computer modeling for both analysis and design, carefully considering the deflections of both the existing structure and our new crane structure, and carefully threading new truss members through the web spaces of the existing trusses.

As of now, one of the structures is essentially complete, and it looks as though things worked as they should have. The cambered trusses flattened perfectly, and while there were a few challenges caused by conflicts with existing members, there were fewer than we probably anticipated and we worked through them with our Design Build contractor partners and with open, informal communication with the Corps of Engineers to keep them in the loop and avoid any surprises.

The project definitely caused a few gray hairs, a few lost hairs, and a few nights of poor sleep given the unusual nature, expansive scope, and tight schedule... but it was all well worth it, a big feather in the cap of the Design Alaska Structural Department, and a useful upgrade to two important facilities for our client.



Welcome to Design Alaska, Cathryn!



Cathryn recently joined the Civil Department. When asked what drew her to Design Alaska Cathryn said, "Everyone I know who has ever worked here has said it was a fantastic place to work. My hope when I started studying engineering was to get a position here specifically."

Cathryn grew up in a small farming community in Virginia. Its claim to fame is that it is the site of the first chapter of Future Farmers of America.

Cathryn's husband Lee is a talented photographer who is working on writing guides to Alaska, including hiking guides, wildflower guides, and wildlife guides. (He has a 2022 calendar out now, if anyone would like to look at it: <https://www.lwpetersen.com/featured/2022-wall-calendar/>) He also works as a coach and manager at Ascension Rock Club, the local climbing gym. They have a cat named Monkey who is an excellent hunter. She helps keep the squirrels out of the insulation in their house. She also cheers her up when she is sad. They also have a dog, Tut, who according to Cathryn is "half chow, half idiot." He is very good at

attacking shadows. It was recently discovered that he's intimidated by bubbles.

Cathryn's hobbies include running, bouldering, and hiking. She is fascinated by cool rocks and likes to collect them on her hikes. Cathryn enjoys critical thinking video games and Dungeons and Dragons. She is a lifelong musician. She started playing the piano at 4 years of age, and can read musical notes almost as naturally as she reads English letters. She also plays French horn, trumpet, six kinds of recorders, the flute, and the guitar.

Cathryn's first job was as a tour guide in Grand Caverns. She spent her downtime learning to juggle with the hacky sacks from the gift shop.

She really likes Fairbanks , but if she had to move someplace else it would be Germany. Her favorite song is called "My Past is Not Today", it is from a children's show, and she finds it strangely inspirational, her favorite movie is Moana, and her favorite childhood show is My Little Pony. She is a night owl, but wishes she was more of a morning person. Cathryn's favorite meal is any and all meals made out of food. She is not a picky eater.

The current goal she is working towards is to run the Equinox marathon. She had planned on doing it this summer but injured her ankle at the climbing gym.

When Cathryn was asked if there was anything else she would like to share she responded, "When I was in high school, I wrote a several-page paper about my hatred for neon orange gel pens. It started as a paragraph of complaint, and then expanded into my desire to become the dictator of my own country where I would outlaw the production, possession, and distribution of gel pens, with the exception of the occasional acquisition of a single pen (by importation, of course) on a regularly recognized holiday for the purpose of burning it at the stake. After a little more embellishment on the evils and dangers of said pens, I went on to create further details for my dictatorship, including many very strange laws and customs, some relating to socks and beanbag chairs. I still have the essay and sometimes I read it and wonder what in the world was wrong with Teenage Me.

What is the one thing that makes your day instantly better?	
Mary Sue Dates	A sincere and authentic smile.
Blake Burley	When I hear the announcement for Cake Day come over the intercom!
Chris Miller	A one mile walk outside. I always feel better after getting a little motion in.
Marina Jones	PG-13 Version: A glass of bourbon at the end of the day. PG Version: Taking a moment to get outside, and dog face rubs.
Eliza Cink	My morning cup of earl gray... and then getting to throw the tea leaves into my compost bin. Also hugs from the kiddos. Those hugs could bring about world peace.
Ryan Morse	The Production Department.
Cathryn Petersen	When the cat jumps on my lap and purrs.
Jack Wilbur	Winter Storm Warnings.
Robin Rader	Coffee
Aaron Wilbur	The drive to Skiland

End of Summer BBQ





Fall Wellness Tips

By: Deanna Woods



It's that time of year again. Alaska is on the downhill swing to winter. We are steadily losing daylight, and the geese are preparing to migrate south. Here are a few things that we can start doing to prepare ourselves for a healthy rest of the year.

Start Taking a Vitamin D Supplement. With the shorter days, it is important to make sure that our body has an adequate amount of Vitamin D. It will help boost your mood, energy, and immune system.

Start Making Plans. Get outside now and soak up all the sunshine and beautiful weather now, but also keep your eyes open for signups for winter fitness and crafting classes as they are starting to open.

Stay Hydrated. Staying hydrated helps boost your immune system and helps fight off dry winter skin.

Wash Your Hands. Covid cases are picking up across Alaska, and we are also entering the dreaded flu season. Washing your hands or using hand sanitizer help reduce your chance of catching the flu.

Wake up on Time. Winter is coming, which means gone are the days of waking up with the sun. Set an alarm clock and stick to it. Give yourself time to drink that first pot of coffee, or to get some morning stretches in.

A Healthy Diet. Winter brings comfort foods and casseroles but when searching for new comfort food recipes, opt for key words like "healthy" "high protein" "extra vegetables" to get the proper nutrients you need without filling up on buttery mashed potatoes. A mindful healthy diet throughout winter will fuel you properly through the cold months, keep the diet in check, and not sacrifice some of the tastes of winter we look forward to.

Stay Active. Find a fun activity to keep yourself moving with the changing seasons. YouTube has some great yoga videos you can do from the comfort of your own home.

8 Dimensions of Wellness





Recycling

By: Elizabeth Johnston



Reasons why people 'hoard' electronics:

- I don't like throwing things away that still work.
- Annoyance: it was expensive when I bought it.
- Second life: maybe I can fix it or reuse parts?
- I want to give my electronics to someone else when I no longer want them (but end up keeping them myself).
- Back-up: What if my new device breaks down?
- Why get rid of it? The device is not taking up much room.
- I'm not sure my electronics will be recycled properly.
- I don't know where to take them yet, I'll figure it out later.
- More than gadgets: they contain photographs, favorite songs, documents I worked on for school.
- I simply use my old computer as a storage unit.
- Keep for show: they don't make them anymore (vintage cameras, walkman, etc.).
- I may want to watch that old home video again.
- Memories: I got it for my birthday/it belonged to...
- What if.... This could be worth a lot of money someday.

**Let it go, let it
gooooo**

**in the e-waste recycling
box located in Survey**



September 2021 ~ Upcoming Events

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Table Massage	2	3	4
5	6 Labor Day Office Closed	7	8	9 Company BBQ	10	11 Stair Challenge
12	13 Birthday Celebration	14	15 Flu/Covid Shot Clinic	16	17	18
19	20	21	22	23 Food Truck	24	25
26	27	28	29	30 Managers' Meeting		

September Birthdays

Sabrina Davis September 7
 Florian Kienle September 21
 Josh Clifton September 24



Design Alaska Anniversaries

Mike Schuetz 3rd Anniversary Sept. 24, 2018

October Upcoming Events

United Way Kick Off Breakfast

On Tuesday October 5, we are kicking off our United Way fundraiser with a virtual meeting. The presenter this year is Karen Taber from Big Brother Big Sisters. Contribution forms will be placed in both buildings after the presentation.

Big Brothers Big Sisters mission statement is "Create and support one-to-one mentoring relationships that ignite the power and promise of youth."

United Way Kick Off Breakfast	October 5
Table Massage	October 6
Table Massage	October 21
Manager's Meeting	October 21
AED Training	TBD
United Way Prize Raffle	October 29