



# INFRASTRUCTURE

## SOLUTIONS TO YOUR CHALLENGES

**MULTI-DISCIPLINE INTEGRATED SOLUTIONS PARTNER**  
SPECIALIZING IN EXTREME ENVIRONMENTS



### > WE MEAN EXTREME

RESPEC's Infrastructure (INF) roots lie deep in the arctic, but our experience doesn't end with the cold and wind. Our work has stood the test of time while facing intense heat, dramatic seismic conditions, rugged military requirements, and the challenge of designing for remote locales.



PLANNING



SURVEY



GEOTECHNICAL



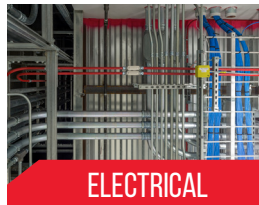
MECHANICAL



FIRE PROTECTION



CIVIL



ELECTRICAL



ENVIRONMENTAL



STRUCTURAL

## MARKET SECTORS

### FACILITIES

Paired with years of experience, RESPEC has a strong project history of designing and planning commercial, public safety, educational, healthcare, industrial, housing, and military facilities. We have combined all of the engineering and planning disciplines necessary to design your building without requiring you to look for the different specialists your project needs.

### TRANSPORTATION

Our specialties include urban and remote airports, roadways, rail systems, and pedestrian zones. We design busy, complex traffic corridors requiring utilities relocations, pedestrian route planning, and rail crossings. Major international airport upgrades, ranging from tarmac improvements to terminal construction and renovations, are well within our capabilities.

### LAND DEVELOPMENT

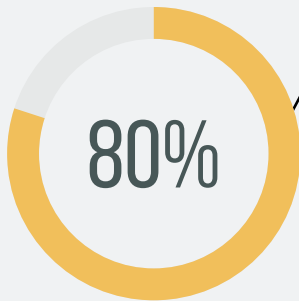
For a project manager, having detailed land information is key. Let RESPEC's Land Development Services market sector take your project from the planning phase to implementation. Our planners, surveyors, and geotechnical, and environmental experts are coordinated, experienced, and ready to take on your unique project challenge.

### UTILITIES

RESPEC's Utilities market sector has provided planning, design, and construction administration for utility projects since 1975. We are well acquainted with the challenges that may disrupt utilities services in rugged and remote environments. Gain peace of mind knowing your fuel, power, communication, and water-distribution systems have been prepared for the worst.

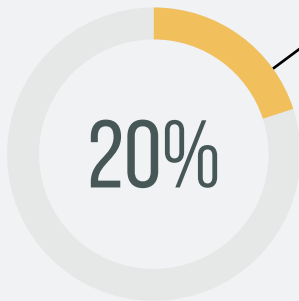
# AT HOME IN THE PUBLIC AND PRIVATE DOMAINS

With over 100 planning and design professionals on hand, RESPEC's INF team is ready to take on public and private projects and contracts.



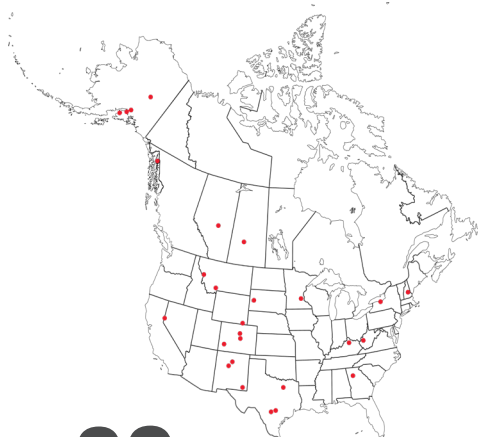
## PUBLIC

Example clients: Local, state, and federal governments as well as federal organizations such as the National Science Foundation and the Forestry Service.



## PRIVATE

Example clients: Architects, mines, hospitality companies, non-profit organizations, financial institutions, visitor industry, and Alaska Native corporations.



**20+** offices in 12 states and 2 Canadian provinces.



Community Design Solutions



Data & Technology



Energy



Facilities



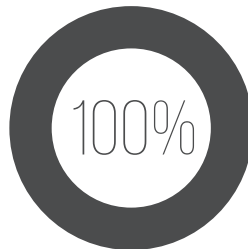
Mining



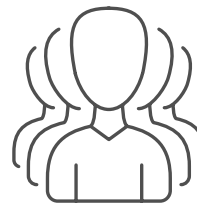
Transportation



Water & Environment



RESPEC is 100% employee owned.



**400+**

Our staff includes over 400 employees throughout the US and Canada.

907.743.3200 | [RESPEC.COM](http://RESPEC.COM)

## KNOW-HOW IS EVERYTHING.

We use our resourcefulness and vast experience to solve problems. It's called know-how and when you have it, problems aren't problems at all. Know-how defines the core of who we are. It's how our clients see us. Know-how speaks to ingenuity, aptitude, and skill—it is not merely knowledge; it is knowledge on how to get things done.

## CONTACT US

**Danny Rauchenstein**

Vice President, Infrastructure

[daniel.rauchenstein@respec.com](mailto:daniel.rauchenstein@respec.com)





# CIVIL



**CIVIL DESIGN FOR CHALLENGING GEOGRAPHY IS OUR BREAD AND BUTTER:**  
URBAN TO RURAL, ARCTIC TO RAINFOREST, AND EVERYWHERE IN BETWEEN.

## MAKING THE GRADE

RESPEC has the broad, well-developed expertise in civil engineering to provide solutions in locations where the temperatures range from 100 degrees below to 100 degrees above, where snowfall reaches 10 feet or more, where design-wind loads exceed 150 mph, and where access and communications are the lifelines of the communities. Whether you are looking for transportation, utility, or site design, we have the technical skills to develop solutions and the management skills to guide the process from funding to construction. Our in-house staff of environmental analysts, planners, engineers, surveyors, and GIS and CAD technicians will help make your project a success.



**15 CIVIL**  
INFRASTRUCTURE  
ENGINEERS



**URBAN  
& RURAL**

AIRPORTS PLANNED,  
DESIGNED, & CONSTRUCTED

**UTILITIES  
SERVED 26**



**HUNDREDS**  
OF MILES OF NEW OR  
REHABILITATED ROAD



"I'm most proud of our work when we are able to give extra effort that moves the solution from the ordinary to extraordinary. When we work with our project owners, we focus on meeting their needs for the present and the future."

**KEITH HANNEMAN**



## CONTACT US

**Keith Hanneman, PE**  
Principal Civil Engineer  
907.452.1414  
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**ENVIRONMENTAL  
SUPPORT**



**SITE DESIGN**



**TRANSPORTATION**



**UTILITIES**

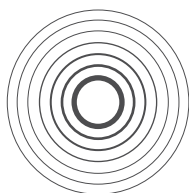


# ELECTRICAL

**ELECTRICAL DESIGNS ROBUST ENOUGH FOR MILITARY AND HEALTHCARE SCENARIOS,  
EYE-CATCHING ENOUGH FOR SCHOOLS AND CULTURAL CENTERS.**

## KEEPING THE LIGHTS ON

RESPEC's electrical engineering team brings a broad base of experience to support your needs. From electrical services and systems for new and existing facilities to design support for utility and transportation capital projects, or in a dense urban environment or a remote arctic or subarctic location, our electrical team can provide the design you need to keep your project on schedule and within budget. With our planning and design expertise, we can also help you commission your existing project or plan for your future. Whether your goal is improving energy performance, diagnosing operational or maintenance deficiencies, or planning for future capital improvements, we can help you achieve it.



**HEMP** PROTECTION  
SPECIALISTS  
HIGH ALTITUDE ELECTROMAGNETIC PULSE



**RCDD ON STAFF**  
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER



**AWARD**  
WINNING DESIGNS

**11**

**PROFESSIONAL**  
ELECTRICAL ENGINEERS



**FACILITIES**



**HEALTHCARE**



**MILITARY**



**TRANSPORTATION**



**UTILITIES**



"I consider a project successful when we have a satisfied client and a satisfied end user, especially when a client returns to us for later revisions to a facility. I see that as recognition of our abilities and that the knowledge of the project is a benefit to our client."

**ROBERT POSMA**



## > CONTACT US

**Robert Posma, PE, FPE**  
Principal Electrical Engineer  
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# ENVIRONMENTAL

**WE MAKE YOUR ENVIRONMENTAL CONCERNS OUR OWN.** PUT US IN CHARGE OF YOUR PERMITTING NEEDS AND REST EASY KNOWING OUR TEAM HAS YOUR BACK.

## ECOLOGICALLY AND PROJECT-FOCUSED

Our environmental team is well versed in the arctic and subarctic landscape. We lend our experience to clients ranging from public entities and large, private corporations to smaller, local governments and communities. We are responsive and can quickly take on your complicated environmental challenges, whether we are assisting with or leading National Environmental Policy Act (NEPA) documentation process and navigating environmental permitting or providing stormwater pollution prevention plans (SWPPPs) and wetland delineations. Communication, innovation, and technical competence are the foundation of our success in NEPA document preparation, environmental fieldwork, and permitting.



**THE  
LINK**  
BETWEEN  
STAKEHOLDERS  
& THE PUBLIC



**FISH HABITAT  
KNOW-HOW**



**NEPA  
DOCUMENTATION**



**ENVIRONMENTAL  
PERMITTING**



**SWPPPS**



**WETLAND  
DELINEATIONS**



"I love my job because it provides opportunities to serve communities while navigating environmental challenges with fellow Alaskans, industry and government entities, and corporations."

**AMY RODMAN**



## **CONTACT US**

**Amy Rodman**  
Environmental Analyst  
907.780.6060  
[amy.rodman@respec.com](mailto:amy.rodman@respec.com)



# FIRE PROTECTION

PROVIDING FEASIBLE, COST-EFFECTIVE DESIGNS TO BOTH SIMPLE AND COMPLEX  
FIRE PROTECTION PROJECTS IN URBAN AND REMOTE LOCATIONS.

## DESIGNS THAT WILL TAKE THE HEAT

RESPEC offers wide-ranging fire protection engineering (FPE) services that fall into five major categories: suppression, detection, life safety, commissioning and retro-commissioning, and alarm and mass notification. Our experience includes traditional water-phased suppression and special suppression for sensitive environments and equipment. We provide designs for fire pumps; storage tanks; fire, heat and flame detection; and smoke control. Mass notification and associated audibility analyses can also be provided by our skilled professionals.



ANALYTICAL APPROACH TO  
**LIFE SAFETY  
SYSTEMS**

FPE DESIGN  
**SUCCESS**



MILITARY



HEALTHCARE  
CAMPUSES



RESOURCE  
EXTRACTION



NATURAL GAS



"I have always been a problem-solver. I tend to face new settings in observation, taking in the unusual bits of my surroundings, questioning relevancy of those odd bits. The eureka moments are ALWAYS exciting."

**CHRISTINE NESS**



## CONTACT US

**Christine Ness, PE, FPE**  
Lead Fire Protection Engineer  
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**ALARM & MASS  
NOTIFICATION**



**COMMISSIONING &  
RETRO-COMMISSIONING**



**DETECTION**



**LIFE SAFETY**



**SUPPRESSION**





# GEOTECHNICAL

**WHY SPEND MILLIONS ON A PROJECT AND NOT KNOW WHAT'S UNDER YOUR FEET?**  
LET US HELP YOU GET THE FULL PICTURE AND GAIN PEACE OF MIND.

## STANDING ON FIRM GROUND

Geotechnical services are often needed at some point in the life span of an infrastructure project. That point could be during the early stages of design and construction or in the later stages of operations, maintenance, or repurposing. Overlooking the geotechnical aspects of projects can result in difficult and costly corrections, especially in the arctic and subarctic, permafrost, and seasonal frost-prevalent regions. RESPEC offers in-house geotechnical consulting services to support the geotechnical needs of our clients as well as provide internal support to our Facilities, Transportation, and Utilities market sectors. Our primary goal is to provide clients with the information they need to make reliable, informed decisions about the geotechnical elements of their projects.



"I enjoy my job because it allows me to apply my engineering expertise both in the field and in the office. Geotechnical engineering requires finding the right combination of technical knowledge and local experience to provide the best solution for my clients."

**CODY KREITEL**



### > CONTACT US

**Cody Kreitel, PE**  
Lead Geotechnical Engineer  
907.743.3200  
[cody.kreitel@respec.com](mailto:cody.kreitel@respec.com)



**ARCTIC  
ENGINEERING**



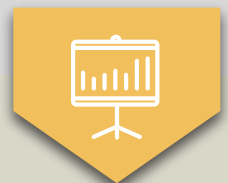
**FIELD EXPLORATION &  
SITE CHARACTERIZATION**



**INSPECTION  
SERVICES**



**MATERIALS  
TESTING**



**RECOMMENDATIONS  
& REPORTING**





# MECHANICAL

**SAFETY, RELIABILITY, LONG-TERM PERFORMANCE, FUNCTION, AND COST**  
ARE ALWAYS AT THE CORE OF OUR MECHANICAL TEAM'S PROJECT GOALS.

## EFFICIENT, RELIABLE, COMFORT

RESPEC brings a complete spectrum of mechanical design and support services to the table. We provide our clients with tailored solutions that meet their needs and culminate in a successful project. Our engineers possess wide-ranging skills that are effectively applied to both simple and complex systems in temperate and cold-region environments and urban or remote locations. RESPEC offers mechanical engineering support at every project stage, including concept development, planning, Request for Proposal development, design services, and bid-phase and construction support. Our mechanical experience ranges from utilities to simple building remodels to entirely new facilities.



**12** PROFESSIONAL  
MECHANICAL ENGINEERS

**50%** OF TEAM HAS MORE THAN  
**A DECADE**  
OF EXPERIENCE AT RESPEC



"For me, successful projects are those that leave a positive impression on people, not only aesthetically but by giving people the impression that it's the right project in the right place at the right time and uses resources responsibly."

**RANDY WILLIAMS**

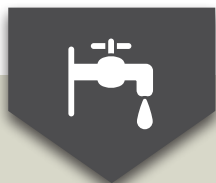


### **CONTACT US**

**Randy Williams, PE**  
Senior Mechanical Engineer  
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[randy.williams@respec.com](mailto:randy.williams@respec.com)



**HVAC**



**PLUMBING**



**UTILITIES**



**COMMISSIONING**



**SUSTAINABILITY**



# PLANNING

OUR PLANNERS LEAD THE WAY, FROM COMMUNITY-LEVEL PROJECTS, TO LARGE-SCALE CORRIDOR STUDIES, TO AIRPORT MASTER PLANS.

## CLIENT-FOCUSED PLANS

A successful project starts with a solid plan. RESPEC's team of transportation, land-use, and environmental planners brings knowledge, expertise, and creative thinking to every one of our projects. Our agile team uses a personal approach along with the latest in technology to provide innovative outreach strategies tailored to each community we serve.

Planning at any level is a complex undertaking, particularly in extreme conditions where costs and distances require imaginative yet practical solutions. From multimodal transportation to urban design to stormwater solutions, we deliver plans that are tailored to your project and help bring your vision to life.

**\$100M+**  
PLANNED INFRASTRUCTURE  
INVESTMENTS



**THOUSANDS**  
OF STAKEHOLDERS  
ENGAGED

**100+** COMMUNITY  
PLANS CREATED



"I enjoy the process of seeing a plan be implemented. The best way to do that is to make sure that the plan is not only innovative but also practical. Going the extra mile to ensure our public involvement plan reaches all stakeholders makes all the difference."

**PATRICK COTTER**



### **CONTACT US**

**Patrick Cotter, AICP**  
Lead Planner  
907.452.1414  
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**LAND USE &  
URBAN DESIGN**



**WATERFRONT &  
GREEN SPACE**



**MULTIMODAL  
TRANSPORTATION**



**MILITARY  
PLANNING**



**RESILIENCY  
PLANNING**



# STRUCTURAL

WHETHER YOUR NEXT BUILDING WILL FEATURE **STEEL, CONCRETE,**  
OR **TIMBER CONSTRUCTION**, OUR STRUCTURAL TEAM IS UP TO THE JOB.

## PROVIDING THE SUPPORT YOU NEED

Using technical sophistication combined with practical design solutions, RESPEC's structural group provides structural engineering for a wide variety of clients and projects. We protect our clients' projects against some of the most severe environmental conditions seen anywhere in the world: massive snow loads, high coastal winds, earthquakes, and extreme cold. From artwork to foundations to multistoried facilities, we have the experience and technical expertise to make your project a success no matter what the challenge.



**SEISMIC  
EVENT**  
STRUCTURAL  
ASSESSMENTS

**RISK**  
**CATEGORY V**  
DESIGN EXPERTS



**DECADES OF  
EXPERIENCE** READY TO  
DEPLOY ON  
SHORT NOTICE



"I come to work every day because I enjoy solving puzzles. I have been interested in them since I was a little girl. As a structural engineer, the puzzle pieces are a little different. In the end it is about finding the piece that fits just right."

**AMY MESTAS**



## **CONTACT US**

**Amy Mestas, PE, SE**  
Lead Structural Engineer  
907.743.3200  
[amy.mestas@respec.com](mailto:amy.mestas@respec.com)



**COMMERCIAL &  
PUBLIC FACILITIES**



**COMPONENTS &  
EQUIPMENT SUPPORT**



**EVALUATIONS &  
INSPECTIONS**



**HOUSING &  
CUSTOM HOMES**



**MILITARY &  
INDUSTRIAL**





# SURVEY



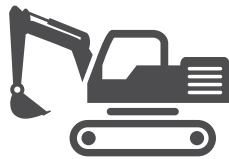
**DIFFICULT TERRAIN, REMOTE LOCATIONS, AND AUSTERE WEATHER CONDITIONS  
ON SHORT NOTICE: THIS IS WHAT OUR SURVEYORS LIVE FOR.**

## PRECISION WHEN YOU NEED IT MOST

RESPEC's survey group offers our external and in-house clients comprehensive surveying services. These include control, photo control, boundary, topographic, hydrographic, engineering-design, subdivision-design and platting, and right-of-way surveying as well as record of survey, construction, and GIS services.

A rapid response to difficult projects in remote areas is normal for our crews, who are accustomed to harsh weather and the challenges of varying environments. RESPEC surveyors provide innovative and cost-effective surveys for clients, just as we have since 1975.

LAND DEVELOPMENT & DESIGN  
**SURVEY EXPERTISE**



**LIDAR  
SCANNING**  
TERRESTRIAL AND AIRBORNE



**DRONE**  
MAPPING AND INSPECTION



"I love the connection to history that comes from following in the footsteps of previous surveyors. We also see so much of the world that not everyone gets to see. I often have days where I marvel: 'I can't believe I'm getting paid to do this.'"

**CRAIG RANSON**

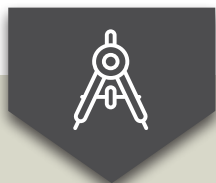


### > **CONTACT US**

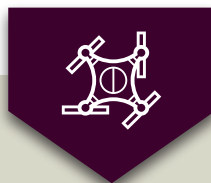
**Craig Ranson, PLS**  
Principal Surveyor  
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**CONTROL**



**DESIGN**



**DRONE  
UTILIZATION**



**GIS**



**RIGHT-OF-WAY**