



THE SOCIETY OF AMERICAN MILITARY ENGINEERS

ARCHITECTURAL PRACTICE COMMITTEE

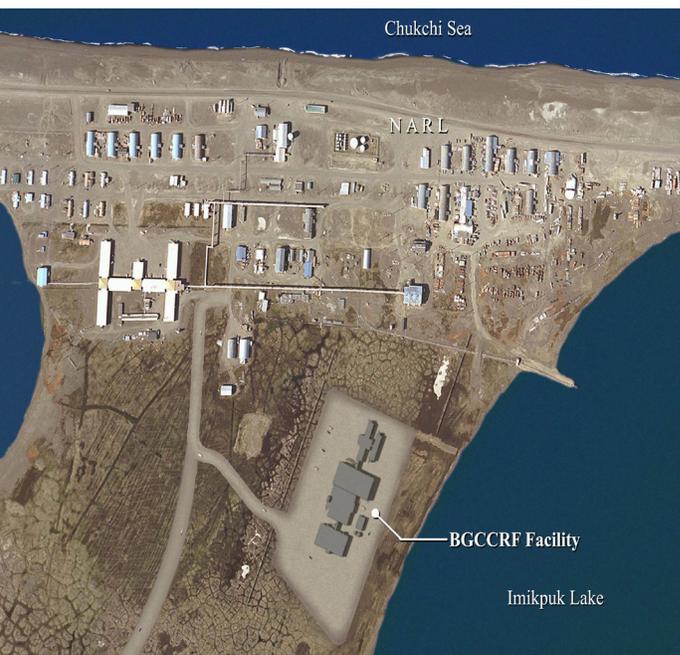
QUARTERLY JOURNAL

A WORLD CLASS INTERNATIONAL RESEARCH FACILITY IN THE AMERICAN ARCTIC

BARROW GLOBAL CLIMATE CHANGE RESEARCH FACILITY

The Barrow Global Climate Change Research Facility (BGCCRF) –Phase I was completed in 2007 for arctic researchers. The opening corresponded with the 125-year anniversary of the International Polar Year (IPY) scheduled for celebration during 2007 – 2009.

The BGCCRF is located south of the Ukepegvik Inupiat Corporation (UIC)–Naval Arctic Research Laboratory (NARL) facilities on the shore of Imikpuk Lake, approximately 200 meters from the Arctic Ocean.



BGCCRF and UIC-NARL Location Map

The program provides for a building complex of 88,930 gross square feet (gsf). The design and construction was planned as five phases as described below. Phase II through V have been delayed as a result of funding considerations.

Phase I:

Research/Education Facility - 20,930 gsf

Phase I includes research laboratories, administrative offices, information technology (IT) spaces, and building support.

Phase II:

Staging, Maintenance, and Warehousing - 16,000 gsf

Phase II includes five staging bays, four storage bays, all-terrain vehicle storage, general storage, two maintenance bays, and science support.

Phase III:

Research and Support Spaces - 20,000 gsf

Phase III includes research laboratories, research support areas, conferencing areas, dining facilities, a shipping and receiving area, and support functions.



Harley H. Hightower,
FAIA, NCARB
 2014 Urbahn Medal
 Recipient

INSIDE

Next Quarterly Call	5
Member News	6
JETC Highlights	10
USAF Design Awards	13

WELCOME LETTER



Homer Guy,
AIA, PE, DBIA, LEED AP, PMP,
CFM, CEM, FSAME
APC SAME Conference Vice
Chair

Welcome to the Architectural Practice Committee (APC)!

I've always received more from SAME than I've given. I know that sounds selfish, but it is true. As an active duty Air Force and private practice engineer and architect, I've gained more in friendships and mentoring than I'll ever be able to repay. So, whether you are active duty, a civilian employee, or a private practitioner, there is a lot that you and your firm or organization can gain from the Society and a lot you can contribute.

Participation in the APC provides a great opportunity to get the most from your SAME membership. It was almost exactly three years ago today that the idea of an APC was discussed at a San Antonio Post Small Business conference but, as the newest of the SAME committees, APC is already one of the highest energy and most successful of the national Committees. JJ. Tang, our fearless leader, provides the energy and enthusiasm to ensure our webinars and conference call

meetings and JETC, regional and Post architectural activities are top notch. The APC has also been blessed by the frequent participation of the military services' architectural leads on the conference calls. Also, few committees, from any organization, can boast a newsletter as informative and interesting as Dave Packard's, Omaha District Corps of Engineers, and Yvonne Lee's, STOA Architects, great APC Quarterly Journal. And, the APC membership has been top notch as well; I would encourage you to look up the April 2015 APC Quarterly Journal and read the front page story about Suzanne DiGeronimo, FAIA, FSAME. Suzanne has not only been a trailblazer in the entire Society but has especially for the SAME architects. As one of the first architects to be awarded the Society's Gold Medal, she has been one of the APC's greatest and most active proponents and is absolutely the first to pick up the phone and congratulate an architect on an award or recognition.

David Letterman recently came out of retirement, made a public



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GOLDEN EAGLE AWARD RECIPIENT

SUZANNE DIGERONIMO

In our last issue of the APC Quarterly Journal, we touched on the subject of the Golden Eagle Award. The SAME APC is proud to announce the recipient of the award is not only a SAME Fellow but also an architect!

If you did not have the pleasure of hearing Suzanne DiGeronimo's acceptance speech in person, please continue reading. Suzanne teachers us on obstacles she had to overcome throughout her professional career, which only increases how deserving she is of this honorable award.

25 March 2015

Thank you, Mom! The Golden Eagle Award. Thank you all for being here.

You know my dad was a tin can soldier in World War II building along 23 continuous months in the Pacific. He saw the American flag raised high up Mount Suribachi, Izo Jim. Thank you all of you veterans out there. You've accomplished an incredibly fine job for our country, for keeping us all free.

And my mom? She was a real Rosie the Riveter working in the factory on the home front. Our American production of new fighting goods in World War II was the envy of the world - and was won for the Allies. I thank all of you citizens out there working in Public Service. You are all truly awesome!

And me? Well, I came along and spent

the apple cart.

In my generation, girls wore the fragile veil. Girls' sports were half games half court sets of affairs. It was boys only for wood shop and drafting. Girls only for reading and sewing. And an over-the-top profession? Don't even think about it, said my college professor, it's too tough for a girl.

I didn't know I shouldn't or that I couldn't. So I attended architectural school at night. I met my husband, my partner, my soul mate: Louis DiGeronimo. He's here today. 18' tall! We married and created out a calendar to plan our family. We job that our son Marcello ought to have received credit for two semesters of an architectural education - 3 months. Marcello's here today. He's a licensed architect awaiting his license, just back from Qatar. And no, his professors at Syracuse didn't give him the credit.

But then again, neither did mine. The Dean threw me out of architectural school. Married women with children shouldn't be architects.

I didn't know I shouldn't or that I couldn't. Out in the work world, my supervisor forbade me from entering the construction site, prohibited me from the crane. I joined a professional society and the holiday meeting entertainment was a struggle. I attended a business meeting at a private

© continued on page 14



Suzanne DiGeronimo
FAIA, FSAME
2015 SAME Fellow
Golden Eagle Award recipient
APC Fellow (see page 14)

INSIDE

Member News	6
2015 JETC	10
Point News	13
"Old vs New"	15

Visit <http://www.same.org/apc> to catch up on everything you've missed. Previous issues of the Architectural Practice Committee Quarterly Journal can be found online.

appearance in San Antonio and gave his latest (and final, so far) “Top Ten” list. As Dave claims to have borrowed the “Top Ten” list from someone else, I have no qualms about borrowing his idea...so, with all due respect to David Letterman, here are the **Top Ten Reasons for Architects to get involved in SAME and the APC:**

10. A chance to grow the APC into something that meets your needs
9. APC participation by military and federal services lead architects ensures discussion and answers “straight from the horse’s mouth”
8. A chance for private sector and federal architects and engineers to get acquainted without contracting officer “supervision”
7. Meet people who can explain

what a winning SF 330 should look like

6. Architects and their customers can meet socially and without an appointment
5. Earn interesting continuing architectural credits for free!
4. Make up your own pronunciation of SAME
3. Cheap golf!
2. See the latest in camouflage
1. What other “Engineering” organization would have architects as President and Deputy Executive Director?

I’ll see you on the next APC conference call!

Homer

ARCHITECT’S FIELD SKETCH CORNER

In today’s architectural practice, architectural design concepts have been conveyed predominately through computer images to others. Even though these images can offer us very realistic feel for our design, but what is missing in most cases is the connection between the artistic emotion of an architect and his design product. To that end, architect’s freehand sketches are the most direct translation of his design thought and emotion on paper. Therefore, it is more intimate and closer to our hearts.

- JJ Tang, AIA, APC Committee Chair



LAST QUARTERLY CALL



Ed Feiner, FAIA
Perkins + Will



San Diego Federal Courthouse
Richard Meier & Partners, LLP



Site Plan, San Diego Federal Courthouse,
Richard Meier & Partners, LLP

If you missed the last Quarterly Call of the Architectural Practice Committee on April 23, 2015, you missed a great webinar. Architectural Practice Committee AIA Collaboration Vice Chair, Paula Loomis, opened the call with introductions and reviewed actions by all APC Committee Vice Chairs. Paula announced the selection of the 2014 Urbahn Medal recipient, Harley Hightower, FAIA, NCARB, who was scheduled to present his work at the 2015 JETC committee meeting of the APC. She also revealed that both David Packard and Yvonne Lee would receive 2014 SAME Appreciation Awards at the Leadership Luncheon during JETC. Speaking of JETC, Paula previewed the schedule for the event and SAME President, John Mogge, also on the call, made a few comments. He noted that the focus of JETC would be energy security and surety. As a net energy exporting continent, the use of renewable energy sources and ready availability of fossil fuels highlight the importance of architectural design focused on energy efficiency.

The AIA credited presentation was an interview with **Ed Feiner, FAIA and Director of the Design Leadership Council, Perkins + Will**. Ed shared his career and experience with design excellence, having recently passed the 10-year anniversary of leaving his post as Chief Architect, General Services Administration (GSA), a post he held for 25 years. The establishment of a Design Excellence Program would take 10 years, after finding an agency in disarray. The process was evolutionary and influenced by the American Institute of Architects design awards program. Design Quality improvement would also begin with GSA's procurement office

rather than designers, leading to a highly competitive design program pitting leading design offices against one another to produce some of the best public architecture in the nation. Sustainability and resiliency were also promoted before they became popular design components. Mr. Feiner discussed the importance of design quality rather than low bids in AE selection. A clear understanding of the Brooks Act and the limitations of design-related costs aided the agency in getting great designs. Segregation of non-relatable services such as programming and site studies allowed the total design budget to exceed the 6% cap. In the end, the Design Excellence Program may have led to more costly projects, but the long-term value of good design still benefits the agency. Many costs have also been the product of new security and energy requirements.

If you missed the webinar or are interested in additional information, the entire interview was recorded and is available on our APC website.

There is also an overview of the GSA Design Excellence Program and an excellent video titled "Design for Democracy: 20 Years of Design Excellence" highlighting the great public architecture that has been produced since its inception at:

Overview:

<http://www.gsa.gov/portal/category/21079>

Video:

<http://www.gsa.gov/portal/category/21080>

NEXT QUARTERLY CALL



Bob Harris, AIA, CFM, LEED-AP
Director Special Venture Acquisition (SVA) NAVFAC



Paul C. Macpherson, CPM
Director, Investment Enterprise Development Service, Department of Veterans Affairs

The Architectural Practice Committee will host a quarterly conference call on **Thursday, July 23, 2015 from 12:00 – 1:15 pm EDT**. Video conference call-in number: For web connection, go to: <https://www.spiderphone.com/05698937> (This link will help connect both your browser) and dial +1 212-812-2800 and enter 0569 8937 for phone connection.

When:
12:00 pm to 1:15 pm EDT
11:00 am to 12:15 pm CDT
10:00 am to 11:15 am MDT
9:00 am to 10:15 am PDT
8:00 am to 9:15 am AKDT
7:00 am to 8:15 am HADT

The agenda for the quarterly conference call includes an update on APC focus area initiatives, open discussion, and 1 AIA LU/HSW/SD credited presentation.

The AIA credited presentation will be given by **Bob Harris, AIA, CFM, LEED-AP** and **Paul C. Macpherson, CPM**. Their program will provide an overview of the Department of the Navy Housing Privatization Programs and Veterans Affairs Housing Programs with the following Learning Objectives for all participants:

1. Gain an understanding of Military Public-Private Ventures.
2. Understand the involvement of architects in ongoing Public-Private Ventures.
3. Gain an understanding of the Veterans Administration housing programs.
4. Understand the involvement of architects in ongoing VA Housing programs.

Robert Harris is the Director Special Venture Acquisition (SVA) at Naval Facilities Engineering Command located at the Washington Navy Yard in Washington, DC. SVA is responsible for development, acquisition, execution, oversight, monitoring and management of Public-Private Venture (PPV) programs, portfolios and projects supporting the Navy and Marine Corps with investment portfolios that currently include approximately \$10 billion in assets. He is a licensed professional architect in Maryland and Minnesota and a member of the AIA.

Paul C. Macpherson, CPM is the Director, Investment Enterprise Development Service, Department of Veterans Affairs with over 25 years of real estate management experience. In 2013, Paul joined VA as Director of the Investment Enterprise Development Service. His primary responsibility is to seek out and consummate public private partnerships with developers that will build housing for disadvantage, homeless, and elderly Veterans at little or no cost to VA. This is VA's Enhanced Use Lease (EUL) program. Since taking over the program his project management team has closed 11 EULs, valued at \$156M, providing 599 units of low income housing. Since 1994, and prior to joining VA, Paul managed public private real estate partnerships with the Army and Air Force.



JJ Tang, AIA, M.SAME
APC Committee Chair

2015 SAME National Committee Appreciation Awards

SAME National Architectural Practice Committee (APC) 2015 Appreciation Awards went to our APC quarterly Journal Editor-David Packard, R.A., PMP, and Graphic Designer-Yvonne LEE, AIA at the 2015 SAME Joint Engineer Training Conference & Expo (JETC) award/ leadership luncheon on May 20, 2015 held in Houston, TX.

SAME Architectural Practice Committee Quarterly Journal is a highly regarded publication designed to bring SAME architects and our collaborators together. The Journal provides architectural practice related articles, contents of technical webinars and presentations sponsored by APC, architects' sketches, book reviews, member news, social and local events, and other important information to SAME architectural community.

David Packard and Yvonne Lee have been the key driven force behind this well respected publication. They have

been volunteering a great amount of time since the inception of the Journal two years ago guiding, collecting, editing the Journal contents, and putting the eye-catching graphic touches on every article in every issue of the publication. Many people mentioned to me via emails and phone calls that APC's Journal has impressed them professionally, and can not wait for the next issue to arrive. David and Yvonne's dedication and volunteerism to this important work is one of the reasons why SAME Architectural Practice Committee has become a very successful committee among SAME national committees and drawn architects to SAME in its short, two-year existence. For that, I am grateful to have David and Yvonne in our leadership team; it is truly my honor to work with these two highly energetic, devoted architects to move our committee forward!

Please join me in congratulating David Packard and Yvonne Lee for this award.



John Mogge (left) and JJ Tang, APC Chair (right), award David Packard (center) the 2015 APC Appreciation Award at JETC 2015



John Mogge (left) and JJ Tang, APC Chair (right), award Yvonne Lee (center) the 2015 APC Appreciation Award at JETC 2015

UPCOMING CONFERENCES

JULY 2015

San Antonio Post Small Business Market Research Fair

July 20-22, Omni Colonnade
(San Antonio, TX)

Industry Day South Florida Post

July 22, Rusty Pelican
(Tampa, FL)

SAME Regional Roundtable

July 22, The Battle House
Renaissance Mobile Hotel & Spa
(Mobile, AL)

AUGUST 2015

Los Angeles River - Resilience in the System

August 11
(Los Angeles, CA)

SAME Tampa Bay Post, Joint Training and Education Day (JTED)

August 12, Surf's Edge Club,
MacDill AFB
(Tampa, FL)

Webinar: Post Leaders Best Practice: Programs to Support Our Veterans

August 14
(online)

SAME/DBIA Federal Project Delivery Symposium

August 18-20, Omni Shoreham Hotel
(Washington DC)

South Central & South Atlantic JETS

August 26-28, Gaylord Opryland
Resort & Convention Center
(Nashville, TN)

SEPTEMBER 2015

Webinar: Post Leaders Best Practice: How to start a regional STEM Camp: The Exploring Engineering Academy

September 16
(online)

Post Leadership Workshop

September 20-22, Embassy Suites
Alexandria - Old Town
(Alexandria, VA)

Continuing Education Program - Alexandria

September 23-24, Century House
(Alexandria, VA)

OCTOBER 2015

Project Management Best Business Practices

October 8, Century House
(Alexandria, VA)

Federal/Regional Contracting Opportunities Program

October 15-16, Marriott Newark
Liberty International Airport
(Newark, NJ)

Webinar: Post Leaders Best Practice: How to Manage Your Sustaining Membership

October 21
(online)

For more information on upcoming SAME events, please visit:
<http://www.same.org/index.php/events/calendar-of-events>

CONTINUING EDUCATION



Rad Delaney, AIA, F. SAME
*APC Continuing Education
Vice Chair*

On Thursday, July 9, the Architectural Practice Committee held the latest in their successful series of webinars, **Designing Glazing Systems Under the UFC 4-010-01, ATFP Requirements**. Over eighty five architects, engineers, master planners and contractors listened to presentations by **Jeffrey Neilson, P.E.** an Antiterrorism Standards Engineer with AFCEC, and **Lynne Bregman**, a civil and structural engineer with Hinman Consulting Engineers, a small, woman owned firm focusing on risk management, protective and engineering design.

Mr. Neilson provided the specifics on the new design criteria and how they affect windows, doors and skylights as well how they apply to design-build, design-bid-build and window replacement work. Ms. Bregman discussed examples and the issues involved with implementation of the new standards.

The objectives of the Webinar were to:

- Provide details on how to comply with the new DOD blast resistant window, glazing, and skylight criteria.

- Introduce planners, architects, and engineers to references and tools available to assist in designing windows and skylights for DoD facilities.
- Provide case studies and specific examples of how the DoD window design criteria has been interpreted and implemented for various types of DOD projects.
- Provide guidance on how to avoid expensive custom window design by utilizing common tested window models available from the window manufacturers.

The presentations lasted approximately 30 minutes each and were followed by question and answer periods. The Webinar was approved for both PDH's as well as AIA Continuing Ed. Credits.

SAME and the Architectural Practice Committee are committed to presenting useful and interesting webinars to our Members. If you have any suggestions for topics, please share them with the APC.

COMMITTEE LIAISONS

The APC could not be successful without its Liaisons. Our committee is fortunate to have both Service Branch Liaisons as well as Architectural Liaisons.

These liaisons help coordinate architectural programs within their local SAME post as well as coordinating

shared programs between SAME and local architectural organizations.

If you are interested in becoming a SAME Architectural Liaison, please contact Scott for more information: richard.leister@us.af.mil

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Army	Ed Gauvreau, USACE HQ	edmond.g.gauvreau@usace.army.mil
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HIGHLIGHTS: SAME JETC 2015



*The Menil Collection
Wave-shaped "leaves" - exterior canopy*

Each year, the Architectural Practice Committee meets face-to-face during the SAME Joint Engineer Training Conference. The conference gives a unique opportunity for the committee members to discuss the committee vision and goals and allows us a chance to gain feedback from the architecture community in a very direct way.

The committee meets just prior to the start of the conference and receives a presentation from the year's Urbahn Medal recipient. Harley Hightower, FAIA, NCARB, gave an informative presentation on his very specialized design efforts for facilities in Arctic and sub-Arctic regions. The extreme climatic conditions impose special considerations for construction practices and extended living in remote cold regions. Power generation, water well operation, structural design on ice and ice-rich permafrost, and design for drifting snow are just a few of the challenges addressed in Harley's entertaining and informative presentation.

One of the great pleasures of gathering as a group is our tradition of

an APC social outing, which includes an architectural tour and dining as a group. The tour this year was exceptional! APC member and the Chair, AIA Public Architect's Advisory Group, Ed Gauvreau, arranged for an excellent tour of The Menil Collection, which houses nearly 20,000 pieces of art and cultural artifacts, the collection of John and Dominique de Menil. The Menils moved to Houston in 1948, commissioning the design of their personal residence with Philip Johnson (his first major commission). In 1980, Dominique de Menil commissioned Renzo Piano to design the building that houses The Menil Collection on the campus of the University of St. Thomas. Our tour guide, Sheryl Kolasinski, Deputy Director and Chief Operating Officer of the Menil Collection (previously Deputy Director and Chief of Staff with the Smithsonian Institution), provided a detailed history of the facility and allowed the APC a rare inside look at the museum's stored archives, staff, conservation, and exhibit planning areas. Additional time was allowed to view the works



*Right: APC members visit the Menil
JETC 2015, Houston, Texas*

*From right to left: Gene Mesick,
Harry Hightower, JJ Tang, Brandon
Tobias, Paula Loomis, Ed Gauvreau,
Yvonne Lee, CC Lee, Sheryl Kolasinski-
Menil Deputy Director, Rad Delaney, Ned
Shepherd, David Packard, Jim Pocock,
Margarita Meoz Mendez*

on display under natural light. Piano, with engineering consultants Ove Arup and Partners, London, studied the site for light intensity and designed a skylit structure utilizing specially designed wave-shaped “leaves” to control light and air flow. The result is a truly a light and elegant structure. The word light describes the facility in color, simplicity, and structure. The APC is immensely grateful to The Menil Collection for this unique opportunity and to Ed for making the arrangements.

After the tour, our group gathered at Underbelly to dine on the Creole cuisine of Houston Chef Chris Shepherd and staff. Chef Shepherd has developed a great menu with local ingredients including seasonal produce, by-catch seafood from the Gulf, and underutilized cuts of meat (butchered on premises). The APC placed its fate in the hands of our dutiful waiter, Don, who chose selections served family style. The variety of foods was amazing and included fresh baked bread, a huge house salad, Roasted Brussel Sprouts, Korean Braised Goat and Dumplings, Crispy Whole Fish with Shrimp, Charred Vegetables, and Chili Mostarda, and whole Roast Pork Loin. The meal concluded with two small desserts savored by all... a spoonful or so each. We were also honored to have, as a guest, the father of our graphic designer, Yvonne Lee (who also chose the restaurant). The experience was memorable and left an indelible impression, so to speak.

Members of the APC also participated in a tour of the Discovery Green, Houston’s 12-acre “Central Park”, guided by park designers Robert Owens, AIA, LEED AP, Associate Principal, Page and Jeffrey Bricker, AIA, Principal, Page. The park displays a wealth of unique design features and great civic art on permanent display by Jean Dubuffet, Jim Dine, Margo Sawyer and Doug Hollis.

Finally, members of the APC gathered to celebrate success at the Annual Society Ball and Awards Gala. Along with all national award recipients, Harley Hightower received his Urbahn Medal. Those present dined on more great food and danced to some great Houston R&B. All in all, a GREAT year to be a part of the APC team at JETC!



APC members at the Urbahn Medal Award dinner, Underbelly Restaurant, Houston, Texas



*Left: APC on the Red Carpet at JETC Society Ball
From left to right: Harley Hightower, Daphne Gurri, Yvonne Lee, JJ Tang, David Packard*

The United States Air Force Academy

Architectural Design Senior Course



Dr. James Pocock
R.A., LEED AP
USAFA Professor

The United States Air Force Academy does not have an architecture program, but cadets majoring in civil engineering can take “Architectural Design” as one of their senior courses. The cadets take on the architect’s role to design a fire station for the city of Colorado Springs. Besides the architectural design, cadets in the course also

complete preliminary designs for the building’s site, foundation, structure, electrical and HVAC systems, all in a 3D Revit model. The students must also complete a cost estimate and a LEED version 4 scorecard showing how their project would achieve at least a silver rating. Below are some images from Dr. James Pocock’s spring 2015 sections.



Design by 2nd Lt Taylor Cooksey



Design by 2nd Lt Karl Schroeder

The United States Air Force Academy was established on April 1, 1954 and offers a four-year program of instruction and experience designed to provide cadets the knowledge and character essential for leadership, and

the motivation to serve as Air Force career officers. Each cadet graduates with a bachelor of science degree and a commission as a second lieutenant in the Air Force.

Visit: <http://www.usafa.af.mil/>

THE USAF DESIGN AWARDS PROGRAM

Gene F. Mesick, RA, LEED AP



*Fire Station
Nevada Air National Guard, Reno, NV*



*C-130 Squadron Operations/Aircraft Maintenance Unit,
Peterson AFB, CO*



*Historic Theater Renovation
Joint Base San Antonio, Fort Sam Houston, TX*

Since 1976 the Air Force has celebrated and promoted design excellence for its wide-ranging portfolio of built infrastructure through the annual USAF Design Awards Program, and over 500 projects have earned awards since that year. In 2000, the USAF Design Awards Program itself achieved special recognition by winning the Federal Design Achievement Award under the Presidential Design Awards Program. We are proud to announce that in October 2015, we will celebrate the 40th anniversary of this prestigious program by recognizing high quality projects completed by design professionals from around the world.

The Air Force places a high value on design excellence, which can be summarized as projects that are life-cycle cost effective, reflect the Air Force's professional image, respect the environment, and, above all, support the mission functions for which they are designed. Award categories include Facility Design; Facility Renovations and Additions; and Landscape Architecture. Within each of these categories, award-winning projects are jury-selected at one of three levels: Honor, Merit, or Citation. Over the years, awarded projects have included examples from across the spectrum of the built environment – to include high visibility headquarters administration

buildings, aircraft hangars, utilitarian industrial structures, and site design/landscaping.

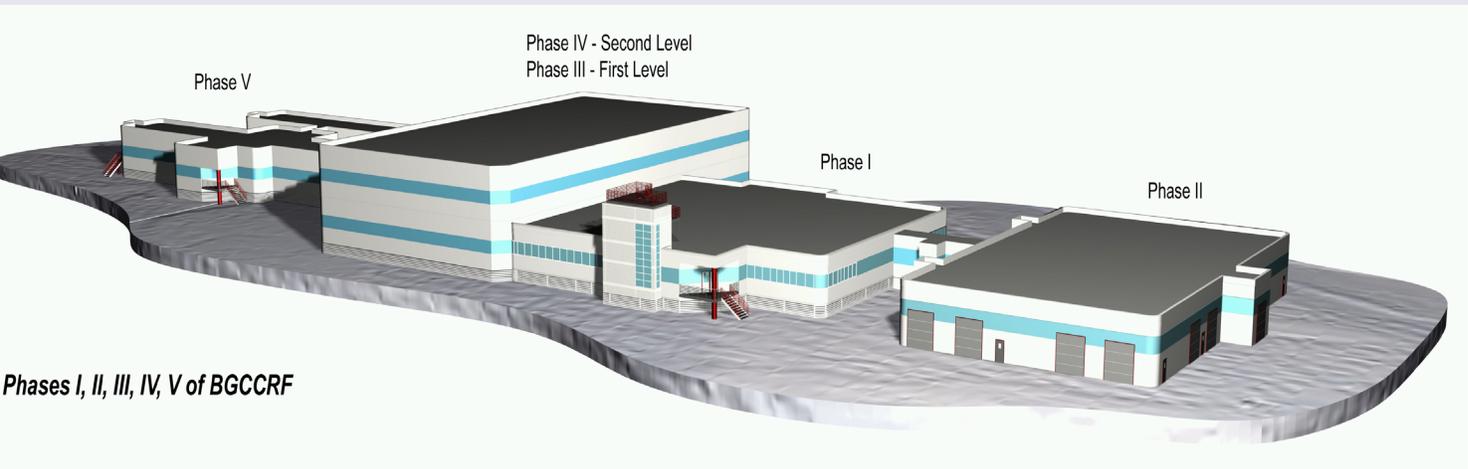
Teamwork is vital for high quality design, and the USAF Design Awards Program is an essential means to recognize and promote the collaboration that is crucial for project success. Awards are presented to the design organization, the Major Command responsible for the project, the installation's engineering organization, and the Design Agent who contracted the design and construction effort.

As the Air Force takes on new challenges to utilize our resources more efficiently while reducing the environmental impact, the USAF Design Awards Program is a proven method by which we measure our successes and recognize those teams who stand out among our many contributing design and construction professionals. It is only by a close partnership with private industry that the Air Force can maintain its reputation for design excellence, and deliver quality facilities and infrastructure to both effectively serve its Airmen and successfully support the ever-evolving military mission. Award winning projects have always, and will continue to be, acknowledged as prime examples of the Air Force design philosophy, "battle ready ... built right."



*Right: Postgraduate Dental School and Clinic
Joint Base San Antonio, Lackland, TX*

□ continued from page 1



Phases I, II, III, IV, V of BGCCRF

Phase IV:

Research Laboratories - 20,000 gsf

Phase IV includes laboratories and science support facilities.

Phase V:

Housing - 12,000 gsf

Phase V includes single, double, and four-person sleeping rooms with a 40-bed capacity, along with a recreation room, quiet room, and laundry.

The Arctic is strongly influenced by, and in turn drives, global environmental change. Therefore, the entire earth climate system cannot be understood without better understanding the Arctic, making it one of the last frontiers of environmental research. The lack of modern research facilities around the Arctic Ocean severely impedes developing an integrated global observation system to better understand climate change. The establishment of the BGCCRF in Alaska on the shores of the juncture of the Chukchi and Beaufort Sea would fill a large void in research support in the U.S. Arctic. The BGCCRF will become an important U.S. contribution to a comprehensive global observation system. The new science support infrastructure will be designed and constructed to accommodate both current and anticipated future research needs in the U.S. Arctic. For example, there is currently no capability to support continuous physical measurements of the Arctic Ocean or to support biological monitoring and experiments with marine organisms (e.g., krill and fish). The BGCCRF would be, when ultimately completed:

- Capable of supporting studies of the atmosphere, ice-covered ocean, and land year-round;
- Able to accommodate and manage global, regional, and local research programs;

- Integrated into the worldwide flow of research data and information for the assessment and anticipation of global environmental change;
- Able to provide telecommunications/IT services from field and automated equipment into the BGCCRF and from the BGCCRF to scientists' home facilities;
- Responsive by adjusting its research activities to the feedback from new results;
- Able to provide a year-round staff of experts thoroughly familiar with all aspects of research, engineering, research support, and logistics; and designed to integrate societal aspects for a sustainable future of human populations in the Arctic region.

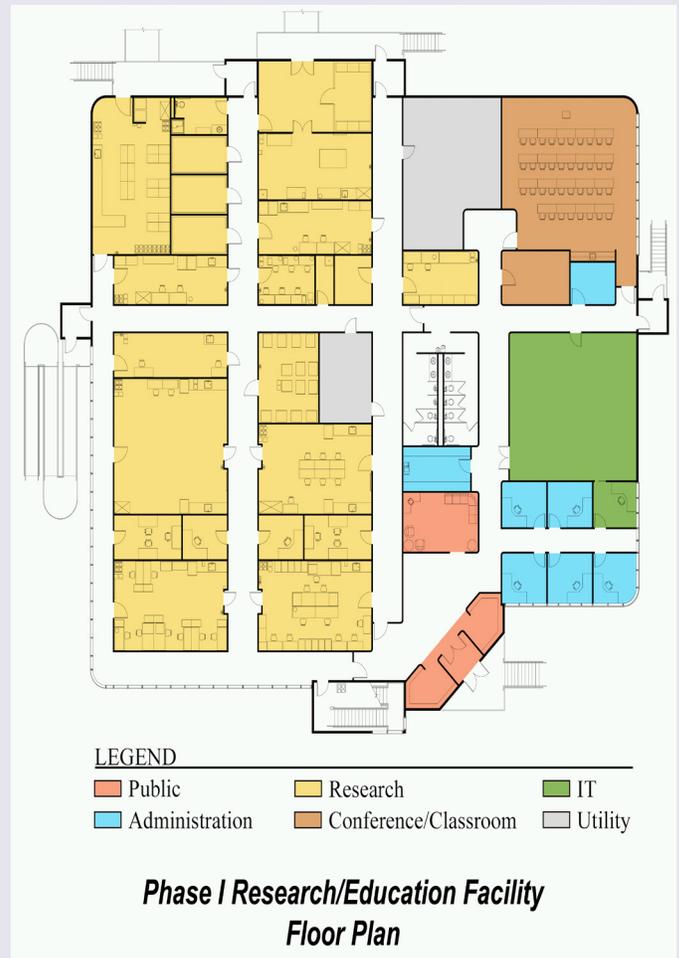
The new science support infrastructure will be designed and constructed to accommodate both current and anticipated future research needs in the U.S. Arctic.

Between 1949 and 1980, arctic researchers were very active in the Arctic and in nearby waters largely because of the Barrow-based NARL. NARL provided easy access, laboratories, and logistical support. NARL was closed in 1981; however, particularly during the past decade, Barrow-based arctic research projects have been back on the upswing. The National Oceanic and Atmospheric Administration (NOAA) Climate Monitoring and Diagnostics Laboratory (CMDL) Barrow station was founded during the 1970s and continues as part of NOAA's five station global network for monitoring atmospheric composition. The North Slope Borough's (NSB's) Department of Wildlife Management (DWM)

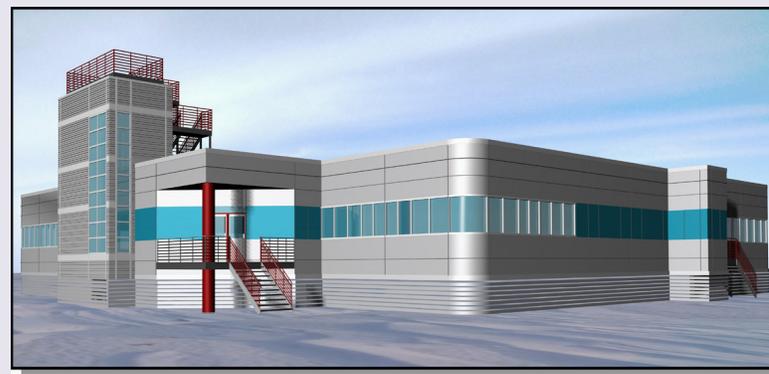
Local Native people have served in many support capacities for scientists in the past and currently serve as managers and technicians for projects such as ARM. It is this history of collaboration with scientists that inspired the creation of BASC and BEO and made the new facility possible.

has conducted its own research for the past 20 years. The DWM also served as logistical provider for growing numbers of arctic researchers without other logistical support. In the late 1990s, the Department of Energy (DOE) Atmospheric Radiation Measurement (ARM) program (DOE's principal climate change research effort) created a Cloud and Radiation Testbed on the North Slope with atmospheric instrumentation located at Barrow and Atqasuk. The Testbed is now part of the ARM Climate Research Facility, a National User Facility. In response to growing researcher needs, the Barrow Arctic Science Consortium (BASC) was formed in the mid 1990s as a non-profit logistical support and community coordinating organization, and received local endorsement. BASC provided logistical support to National Science Foundation (NSF) researchers through a cooperative agreement and to others on a fee-for-service basis. UIC also dedicated 11 square miles of its land as the Barrow Environmental Observatory (BEO). This land that has been used for research for more than 50 years is now available to the larger research community and has been protected from development as the first zoned Science Research District in the U.S. Since 1981, the remains of the old NARL infrastructure sustained the scientific enterprise on the Arctic coast. But now because of the rapid ongoing changes in the Arctic, these inadequate facilities are need to be replaced.

The new Barrow facility, although smaller than the old NARL, would serve the needs of modern researchers with first-class laboratories, IT, and lodging. It has been designed with input from the arctic research community at various steps of the process through a series of workshops. Research in the Arctic capitalizes on the history of collaboration between the Native Inupiat Eskimo people and scientists going back to the first IPY (1881-1883). Local Native people have served in many support capacities for scientists in the past and currently serve as managers and technicians for projects such as ARM. It is this history of collaboration with scientists that inspired the creation of BASC and BEO and made the new facility possible.



The scientific community has expressed significant interest in the new arctic research facility. The opening of the BGCCRF during the International Polar Year's 125th anniversary renewed America's commitment to cutting edge science support in the Arctic. **APC**



Phase I: Research and Education Facility

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