Mason&Hanger

A Day & Zimmermann Company

A/E Services Overview

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NEW EMBASSY CAMPUS
THE HAGUE, NETHERLANDS
Architect of Record - MOORE RUBLE YUDELL

INTRODUCTION

Mason & Hanger, a Day & Zimmermann Company, is dedicated to providing architectural and engineering services. We specialize in the worldwide design of secure, mission-driven facilities, proudly serving as a partner to the United States Government for nearly two centuries.

{ With a rich history spanning nearly 200 years, Mason & Hanger is one of the oldest operating A/E firms in the United States.

Firm Overview

At Mason & Hanger, “Building a More Secure World” is more than just a tagline. For almost 200 years and on thousands of projects across the United States and in 165 countries around the world, supporting the mission of the U.S. federal government has been our sole focus. With a full array of in-house multi-discipline professionals and a staff of more than 250, we specialize in the planning and design of secure, mission-driven facilities. These facilities include educational institutions, classrooms, training facilities, assembly halls, athletic facilities, secure buildings, data centers, command and control centers, communications facilities, headquarters facilities, embassies, SCIF spaces, and many others.

Mason & Hanger’s secure facility design practice includes both new facilities and the renovation and upgrade of existing facilities and systems. Renovation of existing mission critical facilities is especially challenging because they must maintain full operation during construction. For these projects, we have developed extensive and detailed phasing plans requiring specific construction sequencing in order to maintain student health and safety during construction and commissioning.

We recognize every client and project is unique, and we integrate our collective resources to offer a customized streamlined solution for every mission.

Our Strengths

- Oldest A/E firm in America founded in **1827**
- Workforce of **250+** multi-discipline professionals
- Ranked in ENR **Top 200** Design Firm
- Footprint in **165** countries and **48** states
- Ranked in **Top 15** A/E Firms in Government Building Design
- **100+** million square feet of school campuses

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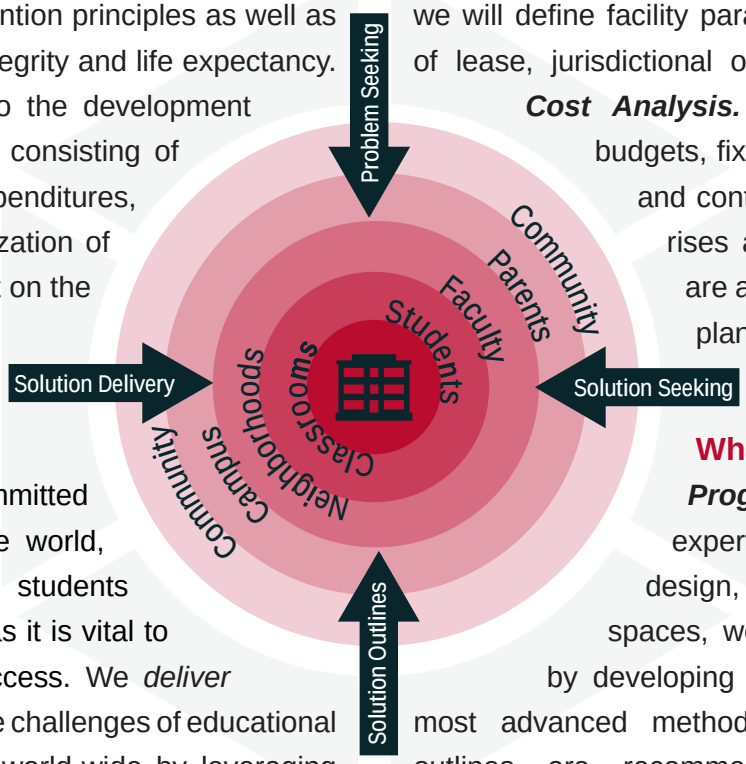
Why Mason & Hanger

How we can help.

Program Review. The first step in working toward a solution is to define all the possible problems. We work with you, your team, and your community to conduct this *problem seeking* exercise consisting of three main components - Program Visioning, Risk Assessment, and Capital Planning. ***Program Visioning*** involves a series of "visioning" sessions to discuss and validate academic, growth and capacity plans to make sure they align with your vision. ***Risk Assessment*** examines your security measures, systems, facilities and operations once the vision is realized. We employ threat mitigation and prevention principles as well as the principles of system integrity and life expectancy. ***Capital Planning*** leads to the development of a detailed Capital Plan consisting of a schedule of capital expenditures, an assessment of the utilization of capital assets, and a report on the best use of these assets.



Why we can help.

It's our mission. We're committed to building a more secure world, especially one in which students are encouraged to excel, as it is vital to everyone's future and success. We *deliver solutions* to meet the unique challenges of educational programs and institutions world-wide by leveraging wide-ranging capabilities, long-standing industry experience, innovative technology, and expert project teams with diverse backgrounds. Having developed some of the most pedagogically advanced schools in the world over the past 25 years, we don't just design schools – we create lasting environments that matter. From the earliest stages of planning and conceptualization to final design and construction, our clients reap the rewards of enduring campuses, optimized academic operations, and a safe, secure environment for all.

Where can we start.

Facility Inventory. We will *seek a solution* that meets your needs, aligns with your vision, and conforms to your financial goals. ***Facility Walk-Through.*** We perform a detailed walk-through of all buildings with a focus on alignment between academics and the layout, determination of deficiencies (structural, environmental, technological or security), and limitations or encumbrances to the expectations for a given area. ***Facility Parameters.*** Having a great impact on the height, size and access to any capital planning, whether on an existing campus or new site, we will define facility parameters, including a review of lease, jurisdictional or governmental limitations. ***Cost Analysis.*** We estimate operating budgets, fixed costs, savings potentials and contingencies. When a solution rises and all project components are accounted for, we move from planning to delivery once.

What we can offer.

Program Assistance. With expertise in the planning, design, and delivery of educational spaces, we offer program assistance by developing *solution outlines* using the most advanced methods. Among these solution outlines are recommendation reports detailing system improvements, documentation such as specifications and drawings, pricing solutions such as pricing documents, procurement packages and value analyses. Once we identify solutions, we can offer assistance with solicitation preparation and prequalification through the selection process to include offer assessment, comparative analysis, award recommendation, and compliance review. We also offer assistance through campus delivery to include award recommendation, delivery verification, commissioning, and the close-out process.

Services

- International Schools and Programs
- Master Planning
- Architecture
- Interior Design
- Mechanical Engineering
- Electrical Engineering
- Telecommunications / Data
- Technical Security Systems
- Life Safety / Fire Protection
- Civil Engineering
- Structural Engineering
- Security Design Services
  - Blast Analysis and Design
  - Progressive Collapse
  - Physical Security
  - Technical Security
  - Environmental Security
  - Range and Training Facilities
- Building Sciences
  - CFD Modeling
  - Energy Modeling
  - Sustainability / LEED
  - Commissioning & Energy Audits
- Contract Administration
- Cost Estimating

International Schools and Programs

Our commitment to building a more secure world includes educational institutions across the globe where students can thrive in a safe yet creative learning environment while preserving the local culture.

For more than a quarter of a century Ed Schmidt has been planning, designing, and delivering school facilities earning recognition for developing some of the most pedagogically advanced school facilities in the world. His award winning work with historic school structures elevated him to the College of Fellows of the American Institute of Architects.

From the most expensive private international school in Switzerland to the first public international baccalaureate high school in Washington DC, his experience includes hundreds of millions of square feet of school campuses. His expertise translates into projects that consistently meet the needs of the school community.

BRITISH INTERNATIONAL SCHOOL OF HOUSTON
HOUSTON, TX

"His expertise working with international schools...proved exceptionally valuable as we sought ideas for maximizing spaces' flexibility and creating innovative environments for students' use for years to come."

- Head of School, Village International School

CAPABILITIES

Classrooms



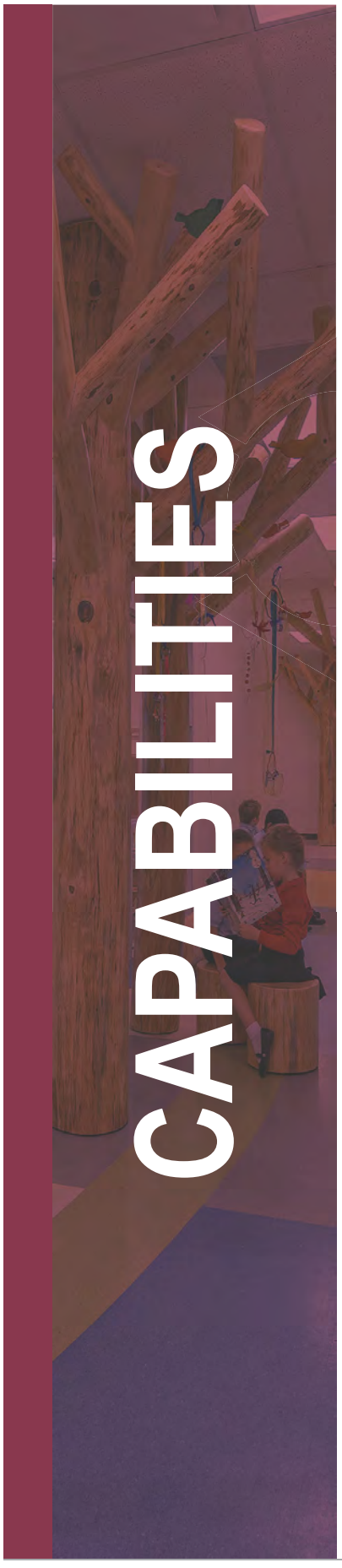


Libraries



Cafeteria Spaces





CAPABILITIES

Athletic Facilities





Pools



Auditoriums / Theaters



Master Planning

Helping our clients make informed decisions to meet their planning and programming goals is the driving force behind our master planning services. We do this through comprehensive planning and design supporting a range of services from site assessments and selection to basic facility requirements to installation development planning.

Our projects have included designs for Department of State facilities, federal training complexes, airfield area development plans, and facility siting. We help our clients from the earliest stages of planning and design including unit and facility requirements throughout the documentation process to address the unique challenges and opportunities presented by each project. We listen, learn, and integrate needs and concerns into the solution.

Based on our client's needs, our team may perform visioning exercises, economic analysis, facility assessments, estimate utility load requirements, or make recommendations on the potential impact to a utility's infrastructure.

We have numerous staff that are certified in both master planning and charrette management and we have a comprehensive list of disciplines to support our master planning efforts to help our clients meet their needs.

Capabilities

- Requirements Analysis
- Planning/DD Form 1391 Charrettes
- Cost Estimating and Valuation
- Surveying
- Concept Sketches and GIS
- Infrastructure Analysis

NEW EMBASSY COMPOUND
SOFIA, BULGARIA

NEW CONSULATE COMPOUND
JOHANNESBURG, SOUTH AFRICA

VILLAGE INTERNATIONAL SCHOOL
HOUSTON, TX

Architecture

Architecture at Mason & Hanger is about finding creative solutions to our client's problems. The majority of our projects are located in strategic, high-threat kinetic environments that require a dedicated design team with a deep understanding of the unique challenges these locations present. "Building a More Secure World" is not just our mission, it's our passion.

Great buildings don't just happen! Well-designed high performance buildings are the result of the combined efforts of architects, engineers, and clients, all working together to develop designs to meet the specific needs of each client and project. At Mason & Hanger, we embrace this collaborative spirit to properly assess the needs of our clients and determine how they relate to their business and mission performance. We utilize our expertise to develop tailored design solutions that meet or exceed client expectations and contribute to their ultimate success.

- Programming
- Design Development and Schematics
- Facilities Master Planning
- Building Evaluation
- Site Selection
- Study/Consultation
- Sustainable Design
- Specifications
- Construction Drawings
- Shop Drawing Review
- Lease Outline Drawings
- LEED Evaluations

Mechanical Engineering

The Mason & Hanger mechanical engineering team provides design and analysis services for HVAC, plumbing, fuel, power, and process systems. We understand the special challenges of secure, mission-critical facilities and are able to produce designs with complex phasing to allow for continuous building operation. We design multiple, large-scale central utility plants that incorporate combined heat and power (CHP) and combined cooling, heating, and power (CCHP – also known as Trigeneration). We also have award-winning experience in the design and implementation of renewable energy systems including wind, solar photovoltaic, and solar thermal.

We were an early adopter of Building Information Modeling (BIM) and offer advanced analysis capabilities including computational fluid dynamics (CFD) modeling, advanced energy modeling, and acoustical analysis. The mechanical team currently includes registered professional engineers, certified plumbing designers, certified energy managers, LEED-Accredited Professionals and Geoexchange designers.

Services

- HVAC Engineering
- Plumbing Systems Engineering
- Central Utility Plant Design
- Combined Heat and Power, Combined Heat, Power and Cooling Plants
- Commissioning and Retro-commissioning
- Energy Audits
- Whole-Building Energy Modeling
- Computational Fluid Dynamics Modeling
- Envelope Analysis
- Sustainable Studies

"Hankins and Anderson provided a high level of expertise throughout the design and CA phase of this project. The level of complexity of this project (MEP plant construction in a live data center) required a great understanding of the client operations and engineering required to maintain continuous use of the existing plant during construction while ensuring a smooth transition to the new systems."

- Project Engineer, General Services Administration

IRS COMPUTING CENTER - MEP PLANT ADDITION
KEARNEYSVILLE, WV

Electrical Engineering

The Mason & Hanger electrical team offers a wide range of services related to a building's systems, power generation, and renewable energy. Our practice is not limited to low voltage applications but also includes medium voltage, up to 35kV classifications. We are fully conversant in the analysis and design of different types of facilities that require a high level of reliability, efficiency and flexibility. Ease of maintenance and a value engineering approach are always factored into all decisions of system selection and configuration. Our expertise in system analysis includes fault current analysis, arc flashing studies, over-current selective studies, and daylight harvesting analysis. We also provide the expertise required for the analysis and design of power quality and isolation for secure facilities.

Mason & Hanger's electrical engineering services include:

- Electrical Service, Distribution, and Generation
- Low and Medium Voltage Systems
- Systems Analysis – Short Circuit, Load Flow, Stability and Coordination
- Systems Evaluations - Existing Loads, Growth Projections, and Power Quality
- Lighting and Controls
- Fire, Life Safety and Security Systems
- Electronic Cabling Systems and Wire Management
- Conditioned Power
- Lightning Protection Systems
- Instrumentation and Controls
- Cathodic Protection

Technology Systems

Our technology systems team offers services related to a building's electronic security systems, audio/video design, structured cabling system, telecommunication rooms, and equipment rooms for classified and unclassified applications.

The team includes registered communications distribution designers (RCDD), outside plant designers (OSP), electronic safety and security specialists (ESS), and certified technology specialists (CTS).

- Surveillance/CCTV
- Intrusion Detection
- Fiber optic detection
- Imminent danger notification systems
- Irritant dispensing systems

IRS COMPUTING CENTER
KEARNEYSVILLE, WV

Life Safety / Fire Protection Engineering

Mason & Hanger offers fire protection engineering, code consulting, and life safety consulting as an integral component of our engineering services and as a stand-alone specialty service. The design of cost-effective and well-engineered fire protection systems requires a design professional who has sound technical knowledge of fire protection systems and a thorough understanding of buildings and the construction process.

Mason & Hanger's engineers are specially trained and registered in the Professional Fire Protection Engineering discipline and are skilled in the interpretation and application of building and fire codes and their associated design standards. It is not always possible to meet the "letter of the code," so it is imperative that your code consultant understands the "intent of the code." Our range of expertise includes:

- Fire detection and alarm systems
- Automatic sprinkler systems
- Special hazards/special suppression systems
- Life safety and code consulting services
- Egress analysis and modeling
- Hazardous materials use and storage evaluation
- Structural fire rating analysis
- Fire protection water supply systems
- Fire/smoke modeling

Civil Engineering

The Mason & Hanger civil engineering team's experience encompasses site planning, layout design, utility, grading, and storm water management for public and private clients throughout the world. We are intimately familiar with the design requirements of the many jurisdictions including international, federal, state, and local. We are experienced in incorporating sustainable site design elements for infrastructure and utility projects and have obtained LEED certification for many projects. We have designed enhanced site-specific security requirements on a project-specific basis and routinely incorporate the requirements for anti-terrorism force protection (ATFP).

NEW EMBASSY COMPLEX
PRISTINA, KOSOVO

Services

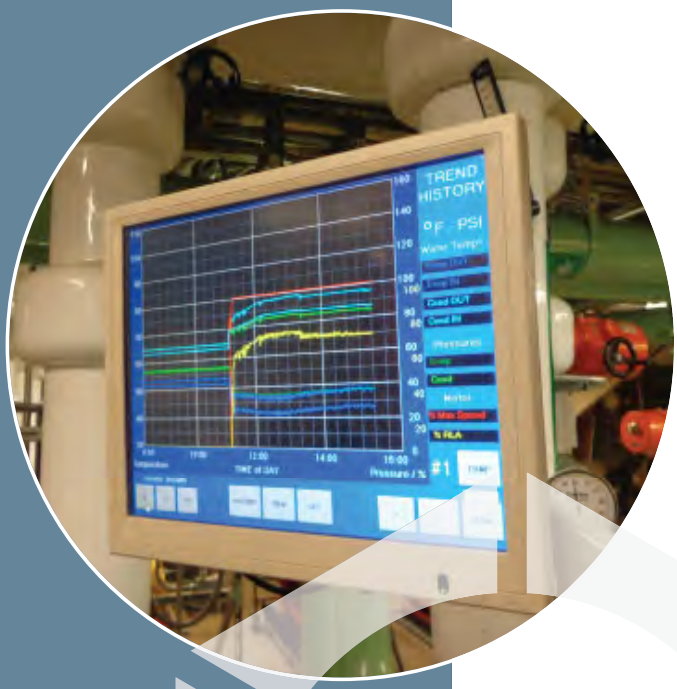
- Site Development and Master Planning
- Airfields/Taxiways
- Firing Ranges
- Driving Tracks
- Water Distribution Studies and Systems Design
- Wastewater Treatment and Septic System Design
- Surveys and Grading Plans
- Erosion and Sediment Control
- Stormwater Management
- Storm Drainage Design
- Flood Plain/Flood Way Studies and Permitting
- Digital Terrain Modeling
- Explosive Safety Arcs
- Roads, Bridges and Related Infrastructure

Structural Engineering

The Mason & Hanger structural engineering team's experience encompasses the design of building superstructures, lateral force resisting systems, and foundations for public and private clients throughout the world. We are familiar with the design requirements of the many private and public building codes and are knowledgeable about the structural design of buildings in high seismic and high wind regions worldwide. We are also experienced in incorporating enhanced and site-specific security requirements on a project-specific basis and have incorporated the requirements for blast mitigation and progressive collapse mitigation on numerous projects.

- Production of complete construction documents for buildings using structural steel, cast-in-place and precast concrete, masonry, timber and light gauge steel
- Foreign and domestic building analysis and design including the ability to provide engineers to sites worldwide
- Foundation systems for buildings
- Blast Design/Explosive Safety
- Building evaluations and forensic structural engineering
- Seismic evaluation and retrofits
- Advanced engineering, including progressive collapse analysis and design, and nonlinear analysis of framing systems

FDA HEADQUARTERS CENTRAL UTILITY PLANT
WHITE OAK, MARYLAND



Commissioning

Experienced with the preparation of commissioning plans with carefully developed test procedures, Mason & Hanger tests both existing and new equipment while minimizing risk and exposure to ongoing operations. Our commissioning and energy audit specialists work to make buildings perform as well or better than they were originally designed, and to assist owners and operators to meet the increasingly stringent energy and water performance reductions mandated by federal and local authorities.

Our certified commissioning agents (CxAs) are also registered professional engineers with specialized expertise in mechanical, electrical, plumbing, emergency power, lighting and daylight control systems, security, and fire protection systems.

Commissioning

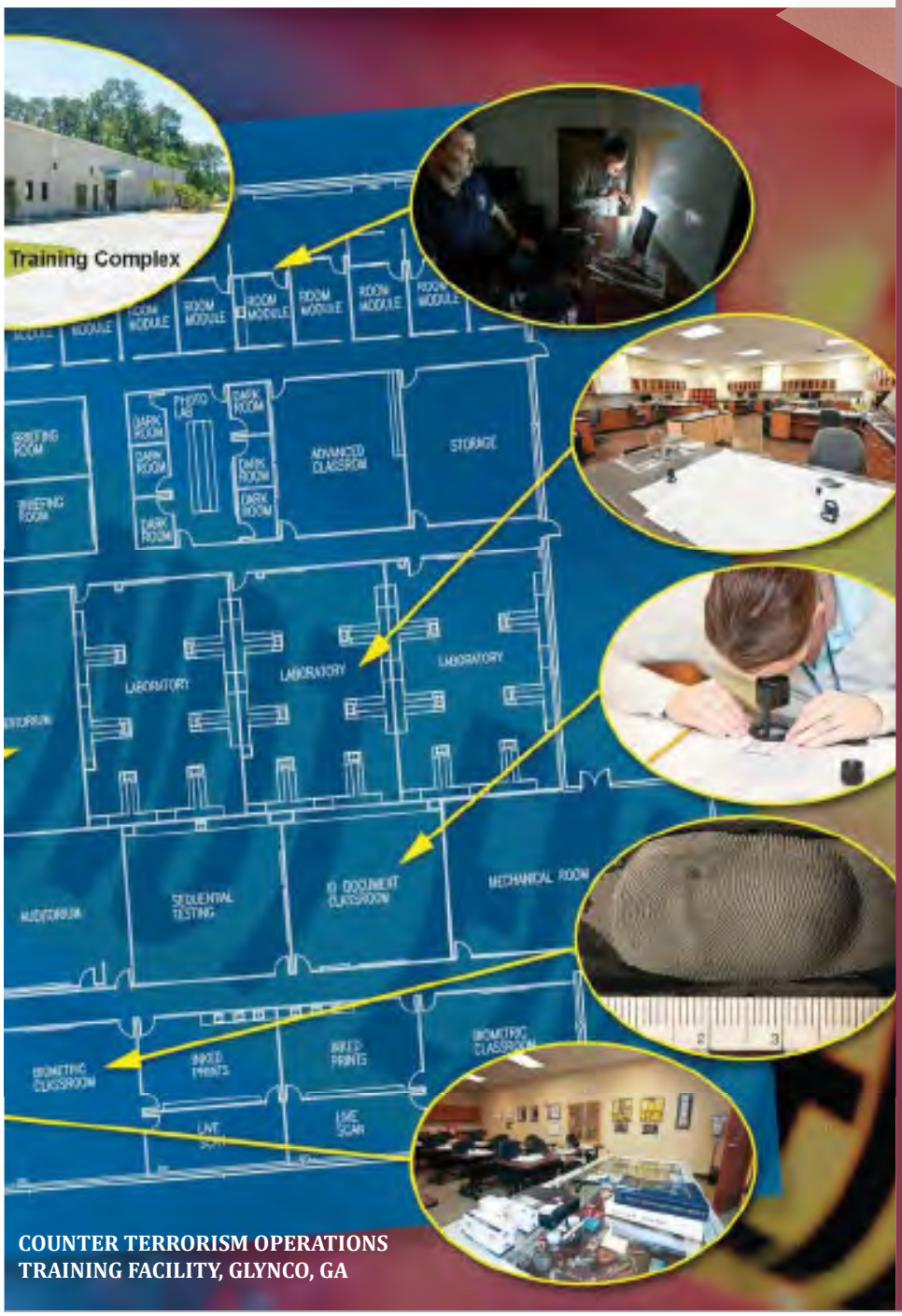
- Process begins with pre-design and continues through design, construction, and early operation
- Maximize operational efficiency of facility systems
- Help owners achieve sustainability goals
- Life safety commissioning services capabilities (fuel systems, fire alarm, fire pumps, smoke control systems, and sprinkler and special suppression systems)

Retrocommissioning

- Inspect building systems to determine condition and operational capabilities
- Improve system operation, equipment performance, indoor environmental quality, and tenant comfort
- Increase energy savings, while reducing both greenhouse emissions and operating and maintenance costs

Security Design Services

Our dedicated security design team provides all inclusive services that protect our client's people, infrastructure, assets and data. We have expertise built on many years of working within DOD established guidelines and are constantly evaluating new technologies in order to stay ahead of the multitude of threats that exist today.



COUNTER TERRORISM OPERATIONS TRAINING FACILITY, GLYNCO, GA

Services

- Risk management / facility threat assessments
- Small arms live-fire shooting and qualification ranges
- Large scale digital training ranges
- Urban warfare training facilities
- Indoor and outdoor baffled ranges
- Vehicle / convoy live fire ranges
- Simulators and mock training facilities
- Blast design and mitigation
- Design for indirect fire (IDF) threats
- Physical security
- Technical security / intrusion detection
- AT/FP
- Progressive collapse
- Ammunition storage and handling
- Access control points
- Energy security and resilience
- Chem-bio security
- EMP Protection

Building Sciences Studio

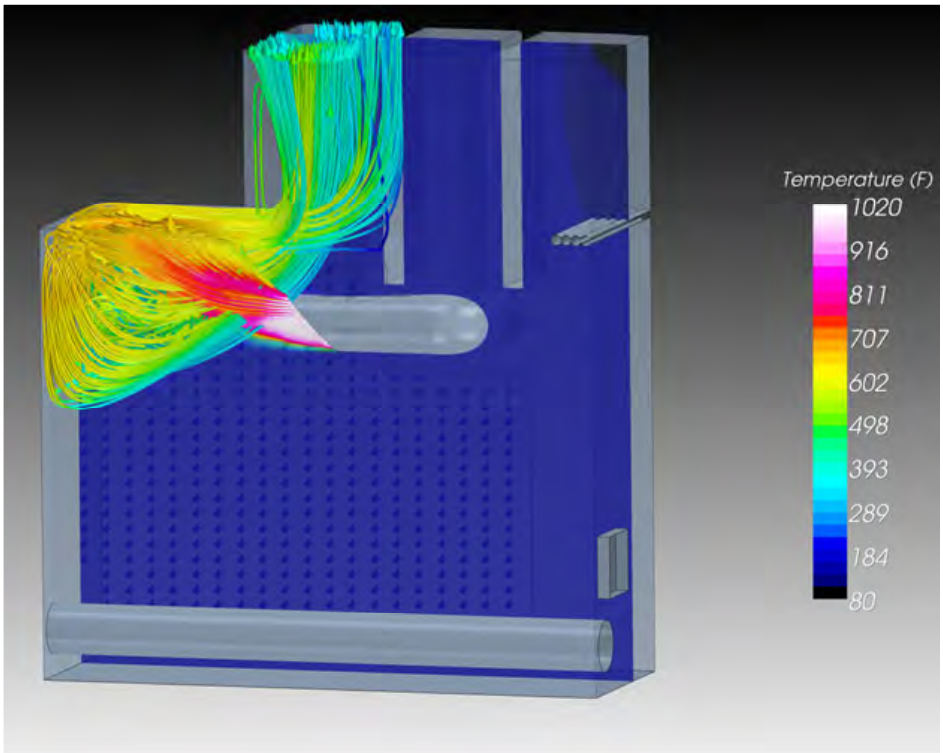
The business of designing and constructing buildings has undergone dramatic change in the past decade. Buildings must not only be functional, they must meet a variety of important requirements related to longevity, energy-efficiency, occupant health and sustainability.

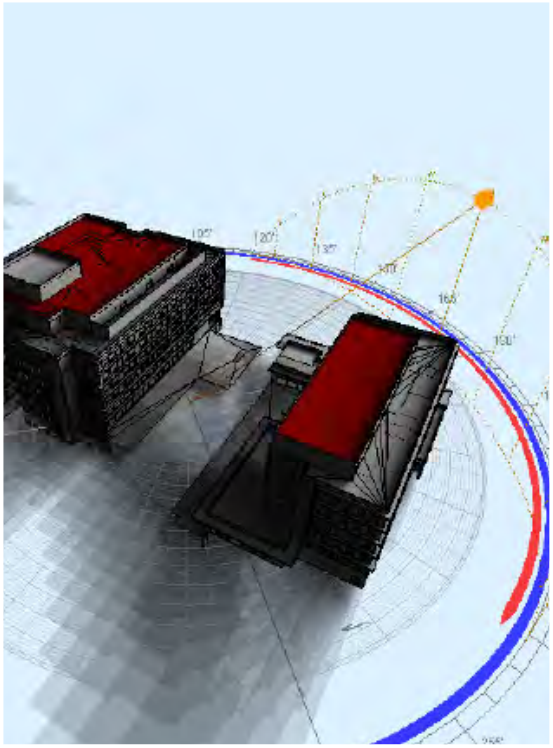
As newer materials and systems are integrated into buildings, it is more critical that the design team and owners have assurance that these systems will perform as expected. Whether you are striving to reach zero site energy, source energy or energy cost, Mason & Hanger's advanced analysis can help drive your building's use as low as possible to make 'net zero' achievable.

Our Building Sciences Studio provides analytical capabilities and expertise beyond the reach of standard design, helping our clients produce better performing buildings in a cost effective and timely manner.

Expertise

- Energy Modeling
- CFD Modeling
- Daylighting Analysis
- Condensation Studies
- Advanced Electrical Analyses
- Design of Ground Source Heat Pump Systems
- Design of Central Utility Plant with Cogeneration and Renewable Energy Systems





CFD Modeling

Through the pairing of computational fluid dynamics (CFD) modeling and advanced integrated energy simulation, Mason & Hanger can communicate complex physics to provide new and exciting possibilities in the built environment.

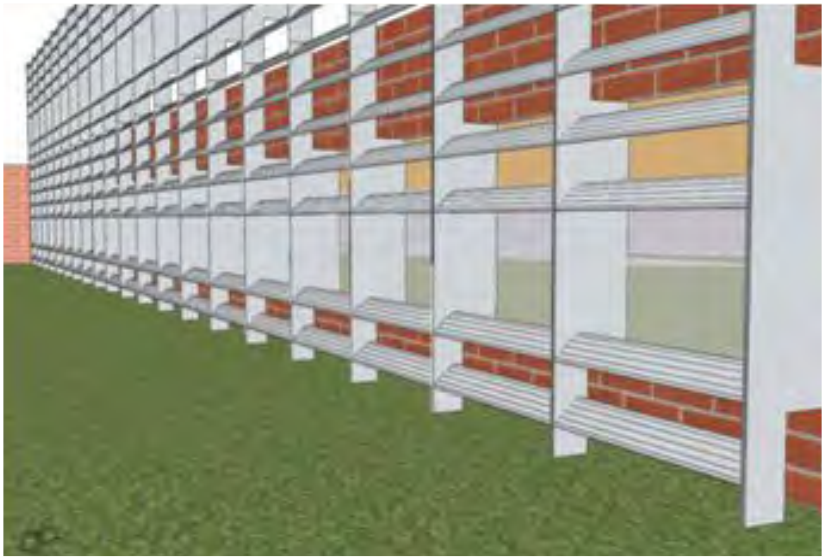
CFD uses numerical methods to model almost any phenomena related to fluid flow and heat and mass transfer. In the building industry, CFD analysis can be used to more accurately analyze interior conditions such as temperature, humidity and air quality.

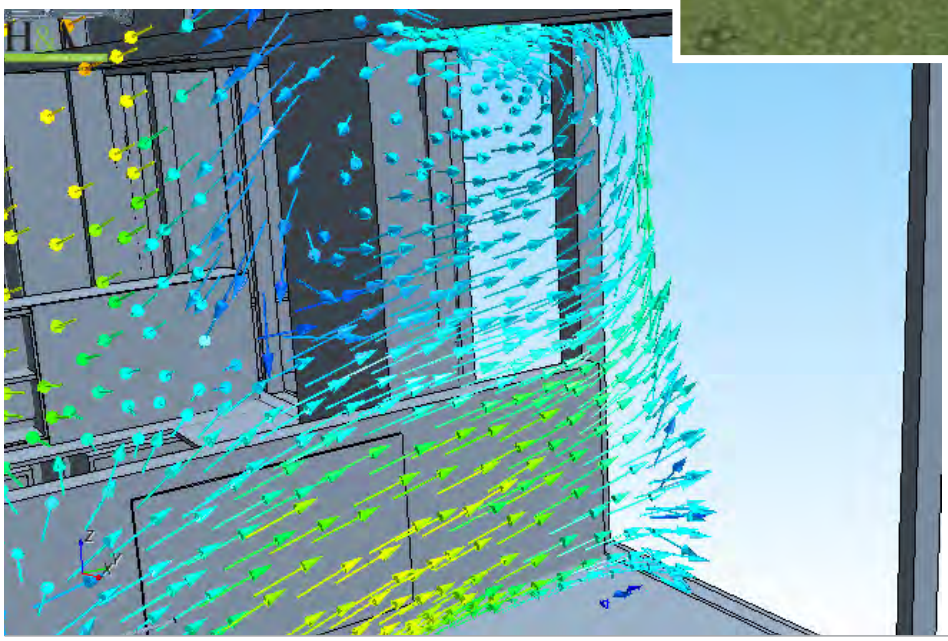
CFD is an excellent tool for modeling smoke migration and can significantly reduce the size of the smoke control systems in buildings. It is also successfully applied to laboratory design, data center design, and external environmental flows.

Energy Modeling

Most design firms provide whole-building energy modeling toward the end of a project to determine a building's relative energy and cost savings compared to a baseline project.

Mason & Hanger creates energy models that offer simulations beyond this traditional approach. Simulation begins at the conceptual design stage, optimizing building orientation, envelope shading and HVAC systems.

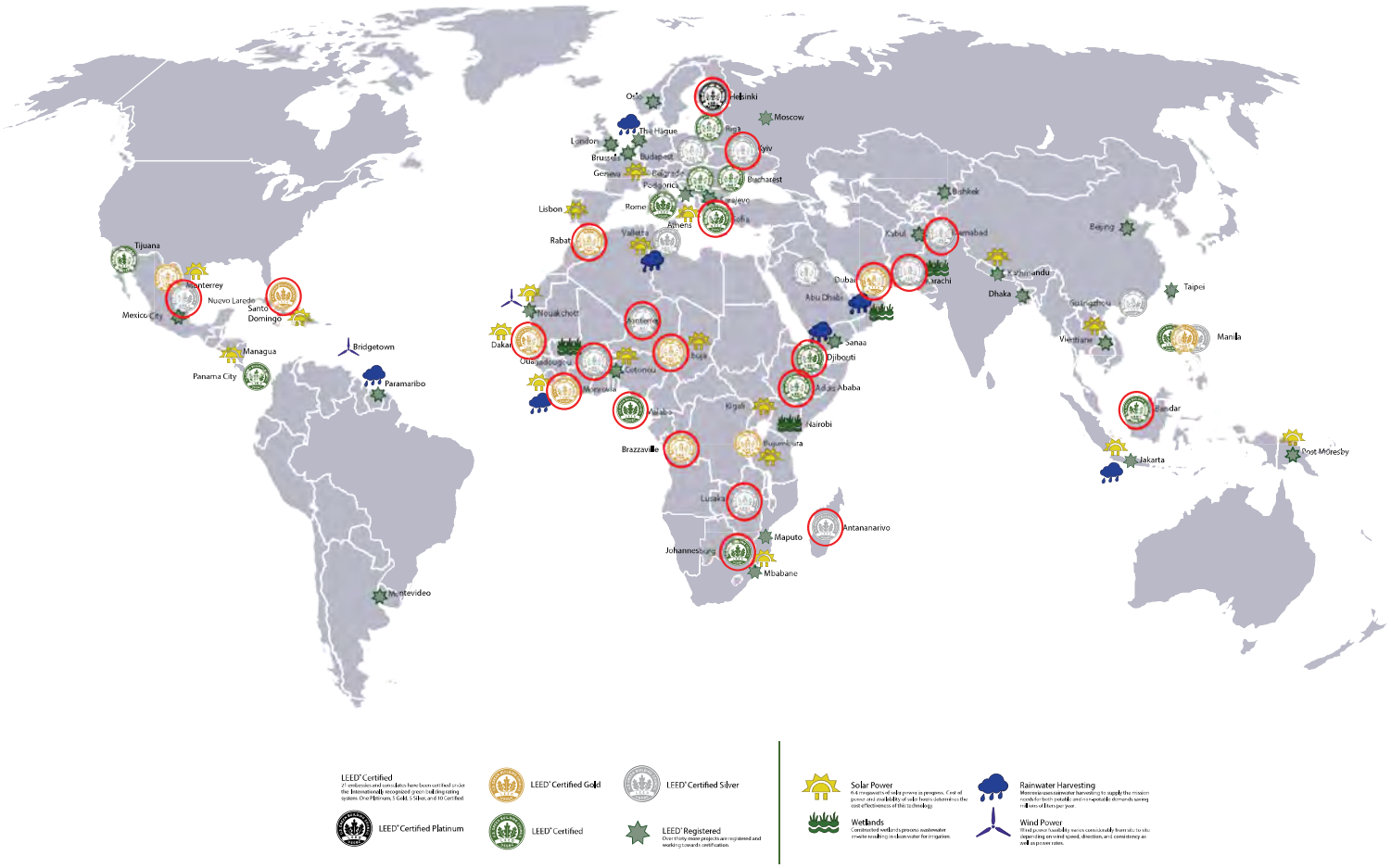


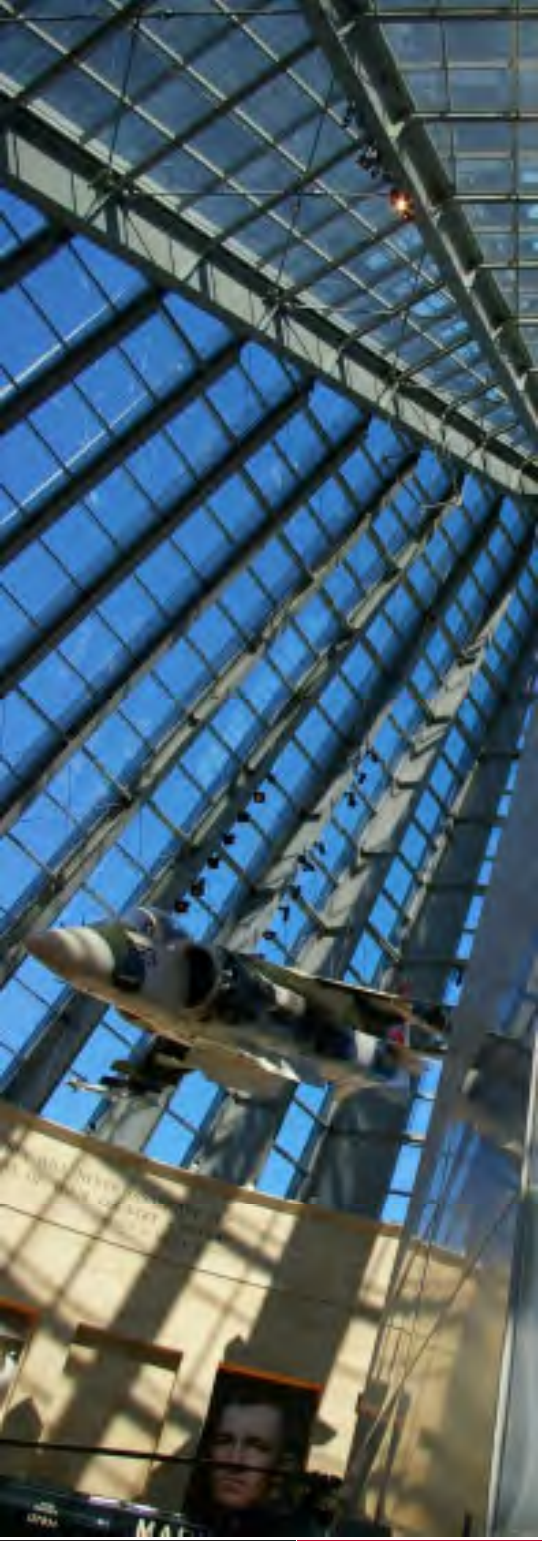


LEED Services

Our experts have applied sustainable management practices to hundreds of projects, guiding our clients through various strategies to obtain their goals, including achievement of certification in green-building rating systems like LEED, Green Globes, and others.

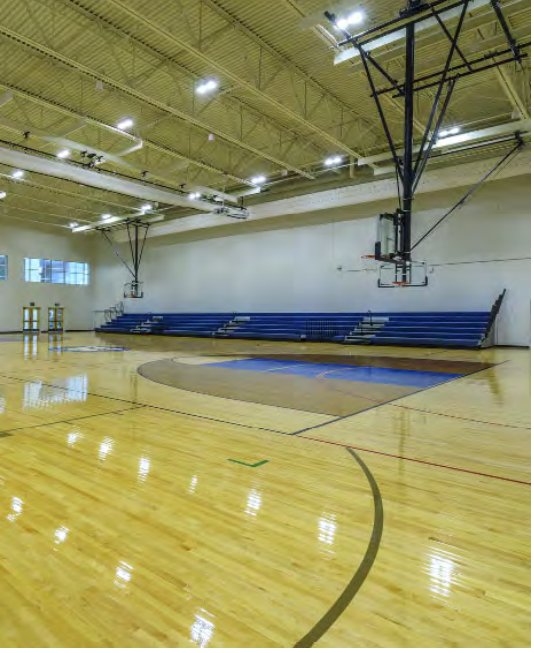
- Overall LEED Project Coordination
- Stormwater Retention and Sedimentation Removal
- Site Development and Master Planning
- On-Site Wastewater Treatment Systems
- Complete Building Energy Modeling
- Computational Fluid Dynamic (CFD) Modeling to Optimize System Performance
- Domestic Water Usage Analysis
- Design of Greywater and Stormwater Collection Systems
- Comprehensive Building Commissioning
- Indoor Air Quality Analysis
- Design of Day-Lighting Systems
- Design of Photovoltaic and Solar Thermal Systems

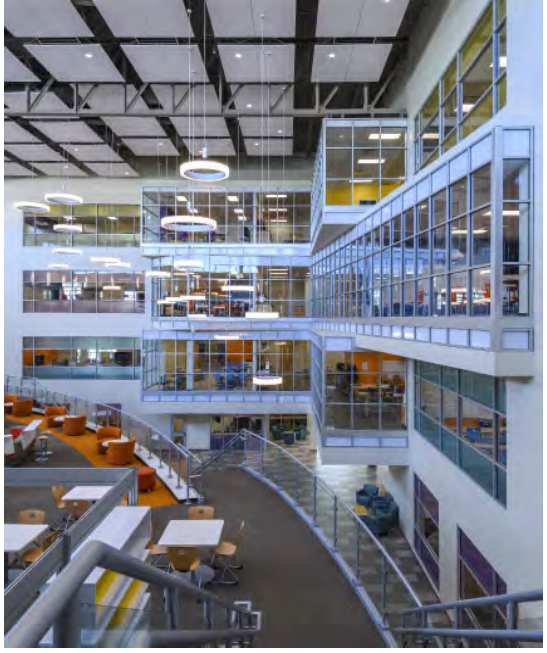




PROJECT EXPERIENCE

Mason&Hanger
A Day & Zimmermann Company





British International School of Houston

Houston, Texas

Boasting several architectural awards as well as the Edumission School of the Future award, the British International School of Houston is a 280,000 SF educational institution with a keen focus on the learner and their needs.

In the fall of 2014, the British International School of Houston had come to a crossroads. They had received conceptual drawings and pricing from the Nationally recognized K-12 school planners that they had been working with, and nothing was right. Nord Anglia Education, the parent company, decided to bring in a new head of school, Mr. Andrew Derry, and the school planning needed to reflect this change. Despite the work that had been done to that point they were going to start from scratch.

After an extensive selection process, they brought in Mr. Ed Schmidt to work with Mr. Derry. Mr. Schmidt had the reputation of working well with planning teams, school Boards and school heads. The new school had to be about more than just “A Levels” and “four form entry”, it needed to be about a different approach to students, their needs and their learning. Together, Mr. Schmidt

British International School of Houston (continued)

and Mr. Derry quickly decided the new school should focus on one outcome—learning. Everything they would do would focus on the learners and their learning from the site orientation to paint colors and furniture selection.

Finding resonance in the David Thornburg book, *From the Campfire to the Holodeck: Creating Engaging and Powerful 21st Century Learning Environments*, they sought to create a school environment responsive to students and teachers of varying levels, personalities, and ages.

The final design was impressive. The 280,000 SF facility was constructed for less than $210 USD per square foot, almost 20% less than the original conceptual budget estimate, and in less than 16 months from start to finish. Most of all, the community interest generated from this new “type” of school led to an almost 25% increase in enrollment over that of the previous facility.

When the school moved into the new building, the teachers and students quickly picked up on a new lexicon. The school center, what might have previously referred to as a library or media center, had become the Agora. Based on the Greek concept of the village square, this space became the marketplace of knowledge and learning. It was the area that all teachers and students could come to share ideas and learning throughout the day. The school cafeteria was now the Boma, based on the African concepts of meals, gathering and family, and was to be used as a parent forum during the day for “coffees” and discussion area when not used for lunch.

The classrooms were organized into neighborhoods, the International Baccalaureate suite became the aspirational “mountain top”. The teachers spoke of gathering around colloquial “campfires”, and the sharing ideas at the “water holes”, where all ideas were safe from attack.

The school has been operational for almost four years and has gone through a number of dramatic changes. It continues to grow which has forced it to become more international. Many of the initial concepts have become institutionalized and less spontaneous. The school also brought on a new head and, while some things will change the initial design, a place for learning continues to remain.

The initial planning and design team had defined learning as “the process of modifying and developing understandings”. This turned out to be as true for the product as it was for the process.

Metropolitan School of Panama

Panama City, Panama

With an enrollment capacity of 1,500 students, the Metropolitan School of Panama boasts 150,728SF of academic conductivity.

In fall 2017, the Metropolitan School of Panama completed design development plans for a new campus just outside of Panama City. However, the project estimate was $2.7M USD over budget, the school design accounted for 300 fewer students than planned, and the construction schedule predicted completion almost a year beyond the lease termination date of the current location.

The school brought in Mr. Schmidt to solve these issues. He teamed with the project developer and Sr. Jorge Conte, a past school board president. The problem was that the school design team had visited and researched recognized 21st Century school designs but did not have school planning experience. The design was a disparate collection of school planning elements with no continuity or context. The upper school classroom wings had been copied from plans of the British International

Metropolitan School of Panama (continued)

School of Houston without the school community elements necessary for them to function.

Together, Sr. Conte and Mr. Schmidt took a step back and revisited the culture and community of the existing campus. They held community forums, defined what it meant to be a member of the Met community, and identified important academic elements. Their new MIT maker spaces, horticulture greenhouse spaces, and performing arts “corners” resonated with the community as elements that made a difference and served as sources of pride.

This evaluation became the basis for the “Valuing” process. Design decisions and elements had to defend themselves against the criteria of supporting the Learning and furthering the culture. Huge retaining walls were terraced to create outdoor learning spaces and save money. Large performance venues were replaced with multiple flexible spaces to support their programs and save money. The school facility was opened up to allow the beautiful Panamanian environment to visually flow through the building introducing elements of sustainability, environmental stewardship and academic conductivity, and to save money.

After a two month process that project budget was back in line, the project schedule was back on track and the school felt as though it had regained its identity. Parents, looking at the plans and eventually visiting the construction site, could point to the things with which they were familiar and become excited by those things that they were not.

The final design will support an integrated Early Childhood 3’s through grade 12 school. Their diploma program, the International Baccalaureate equivalent, is introduced in the elementary programs and carried through out the school. And each one of the upper school science labs has direct access to a green house.

The project remains on track to be completed this coming June, 2020. The school will use the summer to complete their fit out of all of the school spaces. Furniture, fixtures and equipment will be delivered and installed over this time and everything will be ready for the first day of school this coming August.

Village International School

Houston, TX

The Village International School was the jewel of the Meritas International family of schools. The school had demonstrated a predictable enrollment growth, year after year, and was into the final year of a five-year master plan. In the of Spring 2016, the school secured capital funds for the next three phases of their master plan through a “Sale Lease Back.” One of the financing stipulations required review and validation of their most recent master plan. They brought in Mr. Schmidt to conduct the review.

He quickly determined the existing master plan did not address the school’s facility needs. The school campus resided on a number of owned and leased land parcels. The previous master plan proposed all growth on “someone else’s land,” and it didn’t account for local flood control and water retention requirements. In addition, the previous master plans did not account for the school’s growing residential program that they were finding to be so successful.

Village International School (continued)

Mr. Schmidt held community briefings and work sessions with the school leadership and community. He proposed changes to the master plan to: i) move all new construction onto school-owned property, ii) include on-campus housing in the initial phases of the plan, and iii) address the academic continuum to allow for student growth.

The initial drafts of the master plan were sufficient to allow for the initial release of the funds for new construction. The first phases were to include 300 on-campus housing units and make good on the previous commitments made to the school community for a competition natatorium and competition gymnasium.

These initial elements were very well received by both the school's finance group and parent community. The on-campus housing had an immediate impact on the schools investment rate of return and the athletic facilities were an immediate source of school spirit and pride.

While these initial projects were successful and well received, these initial phases did not address the perceived challenge of a student's academic continuum. In summer of 2018 the school received a new head. Ms. Katherine Brewer was installed as the new Head of School in preparation of the 2018 – 2019 school year. Her initial assessment of the school supported this learning concern and Mrs. Brewer and Mr. Schmidt immediately took advantage of the transition period and tackled the open item of the school master plan together.

A facilitator was hired, teacher interviews were held, students were engaged and an academic plan was appended to the facility master plan. Issues of proximity, collaboration and efficiencies were incorporated into the plan for the final phases. The review and approval of these phases is underway and the school hopes to move into the design and construction document phases before the end of the calendar year.

To date this ongoing master plan has included a track and outside athletic venue, school parking and drop off areas, a natatorium, gymnasium, locker facilities, classrooms, offices and dormitories. Along with selective building demolition and existing building renovations.

General Instruction Facility

Fort Bragg, North Carolina

Mason & Hanger provided full design and construction services for this new 96,103 SF General Instruction Building (GIB). The GIB is used to teach Army-mandated programs including the Warrior Leader Course, BNCOC Phase I, Battle Staff Course, First Sergeant Course, and Instructor Training Course.

Part of a two-building NCO Academy complex, the GIB is a two-story structure with 18,749 SF of administrative space. The facility includes 28 classrooms and associated administrative areas, a learning center, an 450-person auditorium, a fitness facility, an arms vault, an AIM (carpentry) shop, a command suite, storage space, instructional classrooms, and other support spaces.

Campus Renovation and Chancery Addition

Helsinki, Finland

Mason & Hanger provided engineering design for this two-phase project at the Helsinki embassy campus. The scope of work included the rehabilitation of the innovation center, a five-story office building, a chancery addition linked to the existing office annex, renovation of the chief of missions residence, and vehicle and pedestrian access control facilities. This project was awarded through the Department of State's Excellence in Diplomatic Facilities program.

Phase 1 was the $20.9 million rehabilitation of the historic innovation center, which was in need of life safety, accessibility and security upgrades. The necessity to renovate the center also became an opportunity to apply advanced sustainable design technologies without jeopardizing the historic character of the building. The most significant contributor to the project's energy performance was the design team's decision to tie into the city's efficient district energy system. The city of Helsinki is considered one of the most sustainable cities in Europe. This project achieved LEED Platinum certification from the Green Building Certification Institute.

Mason & Hanger was the first U.S. design team to successfully apply the Sweden Green Building Council (SGBC) guidance document titled "Treatment of Scandinavian District Energy Systems in LEED – Energy Models for EA credit 1."

Design Architect: Moore Ruble Yuddell Architects & Planners
Photography credit: Werner Huthmacher, Berlin

New Embassy Campus

The Hague, Netherlands

The existing historic embassy building in the city of Hague was designated a national monument. The Department of State commissioned the design and construction of a new campus to provide a more secure and modern facility for embassy personnel. Upon completion, the original historic building was returned to the city.

Mason & Hanger provided engineering services for the design-build of the new 134,549 SF embassy campus.

The embassy is projected to reduce energy costs by 30% compared to a conventional building. This is accomplished through the use of high efficiency, energy conserving equipment and devices. The site has a high water table, as well as an abundance of rainfall. To take advantage of this, rainwater harvesting is used to capture the rain and reuse it for irrigation. The design includes sustainable design criteria for both the building and the site to achieve LEED Silver certification.

New Embassy Compound

Sofia, Bulgaria

Mason & Hanger provided design services for this new $52M embassy that incorporates a blend of modern diplomattic design, as well as classic Bulgarian architecture. The four-story, 187,000 SF compound replaced over 20 embassy offices scattered throughout the city.

The building is stair-stepped to break up its mass, allowing it to blend smoothly with the surounding residential neighborhood. The facade features contrasting patterns of regional stones that create intricate designs evocative of local culture, while the walls are clad in limestone and wood paneling. Tthe floor is a tri-stone pattern reminiscent of traditional Bulgarian design. An interior ceremonial hall and its adjactent outdoor terrace overlook picturesque Mount Vitosha.

Incorporating strategies from the state department's Energy and Sustainable Design Program, the Sofia embassy compound is the first embassy to meet the rigorous standards of the U.S. Green Building Council and achieve LEED certification.

New Embassy Campus

Belgrade, Serbia

Mason & Hanger provided engineering design services to include mechanical, electrical, plumbing, fire protection, security design, telecommunications design, and contract administration for the design-build of this 452,084 SF embassy campus.

The campus was designed in accordance with Department of State security and code requirements and the LEED Green Building Rating System and was awarded LEED Certification.

Facilities included a new office building, support annex, Marine security guard residence, utility building, service main and consular campus access controls, and a demarcation building.

After completion of 35% of the design, the threat level in Serbia was raised, requiring changes to the existing plan. Mason & Hanger reconfigured the blocking and stacking and provided a new design while staying on schedule.

NEW EMBASSY CAMPUS
ADDIS ABABA, ETHIOPIA
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BUILDING A MORE SECURE WORLD

At Mason & Hanger, we are focused on the planning and design of secure, mission-critical, specialty facilities.

We have evolved our multidiscipline approach, providing more capabilities to our clients than ever before.

Grounded in collaboration and extensive analysis, we apply the combined experience of our professionals to produce the next generation of high-performance facilities.

{ We create unprecedented opportunities for our clients. We explore and investigate innovative ways to create dynamic spaces.