Mead & Hunt provides consulting services under SIN 871 7. This includes:

- **Construction Management** – construction, design, and management expertise to provide professional advice to the customer agency. Also serving as the principal agent to advise or manage the process over the project regardless of the project delivery method used. Construction management services include, but are not limited to, design phase support, procurement support, commissioning services, testing services, construction claims support and post-construction engineering services.

- **Engineering Consulting** – functions as an advisor to the government to assist with executing engineering tasks associated with real property. Engineering consulting services may include mechanical engineering, electrical engineering, fire protection engineering, forensic engineering, structural engineering, or any other specialized engineering consulting services that are utilized in regards to real property. Authorized engineering consulting tasks include design reviews, shop drawing reviews, submittal reviews, inspection and testing services, witnessing acceptance tests of equipment and systems, commissioning, modeling and analysis, loss investigation, facility surveys, safety evaluations, research studies, risk mitigation strategy development or reviews and other related technical consulting services.

- **Project Management** – managing projects and services as they relate to construction management or engineering consulting efforts.

- **Planning** – expertise ranges from small space utilization studies and area development plans to large installation development plans and joint land-use studies. Our skilled team provides comprehensive services in economic impact analyses, facility planning, geographic information systems, community planning, land use compatibility planning and master planning.
SIN 899 1 ENVIRONMENTAL CONSULTING SERVICES

Mead & Hunt provides consulting services under SIN 899 1. This includes:

- **Planning and Documentation Services** – for the development, planning, facilitation, coordination, and documentation of and/or for environmental initiatives; Environmental Management System (EMS) and sustainable performance measure development; Environmental Assessment (EA) and Environmental Impact Statement (EIS) preparation under the National Environmental Policy Act (NEPA); endangered species, wetland, watershed, and other natural resource management plans; archeological and/or cultural resource management plans.

- **Environmental Program and Project Management** – environmental regulation development; climate change adaptation and resiliency planning and implementation support, including but not limited to, identifying climate risks and impacts; applying and interpreting climate and impact assessment model outputs; development and/or implementation of solutions to build climate resilience, reduce identified climate risks, and/or provide both climate change mitigation and adaptation benefits; climate decision support, risk management, and vulnerability assessments and analyses; economic, technical and/or risk analysis; other environmentally related studies and/or consultations.

- **Compliance Services** – such as review, audit, and implementation/management of compliance and contingency plans and performance measures and permitting. Spill prevention/control and countermeasure plans; pollution prevention surveys. Including environmental regulations and environmental policy/procedure updates; waste management consulting services to provide guidance in support of waste-related data collection, feasibility studies and risk analyses; waste characterization and source reduction studies; review and recommendations of waste tracking or handling systems; waste management plans and/or surveys; waste minimization/pollution prevention initiatives; and review of technologies and processes impacting waste management.

SIN 899 3 ENVIRONMENTAL TRAINING SERVICES

Mead & Hunt provides consulting services under SIN 899 3. This includes:

- **Training** – aiding agencies in training personnel in a variety of environmentally related subjects in order to meet Federal mandates and Executive Orders. Environmentally related training can be conducted on- or off-site using standard off-the-shelf, customized, or computer/web-based interactive courses.

- **Examples of Environmental Training Courses** – Environmental management planning and operations and maintenance (O&M) planning; compliance with environmental laws/regulations; emergency response plans; environmental audits, awareness, compliance, and management; NEPA; natural habitat preservation; pollution prevention; sustainable environmental practices; water conservation; and wetlands regulation and permitting.

SIN 899 7 GEOGRAPHIC INFORMATION SYSTEMS (GIS) SERVICES

Mead & Hunt provides consulting services under SIN 899 7. This includes:

- **GIS Services in Support of Environmental Programs** – Creation/enforcement of environmental legislation; cultural resource GIS (CRGIS); environmental cost assessment; environmental impact analyses; environmental regulatory compliance; growth forecast modeling; habitat conservation plans; habitat modeling; mapping, cartography, and mashups (e.g., combining data from more than one source into a single integrated tool to include aerial mapping); migration pattern analysis; natural resource planning; remote sensing for environmental studies and watershed characterization for mitigation planning.
CUSTOMER INFORMATION

Contractor:  Mead & Hunt, Inc.
Address:  2440 Deming Way, Middleton, WI  53562-1562
Tel:  608-443-0583 Mobile:  608-345-8584 Fax:  608-273-6391
e-mail:  jeff.sorenson@meadhunt.com

1a Table of Awarded SIN(s) with appropriate cross-reference to page numbers:
871-7/RC – Construction Management and Engineering Consulting Services
899 1/RC - Environmental Consulting Services
899 3/RC – Environmental Training Services
899 7/RC – GIS Services

1b Identification of Lowest Priced Item:  N/A

1c Hourly Rates & Labor Category Descriptions:
See GSA website listing located here.

2 Maximum Order:  $1,000,000.00

3 Minimum Order:  $100.00

4 Geographic Coverage:  Worldwide

5 Point of Production:  Same as company address

6 Discount:  Government net prices (discounts already deducted). See GSA website listing located here.

7 Volume Discounts:  2% off each task order exceeding $250,000 and 3% off each task order exceeding $500,000.

8 Prompt Payment Terms:  .5% - 10 Days; Net 30 days
Information for Ordering Offices: Prompt payment terms cannot be negotiated out of the contractual agreement in exchange for other concessions.

9a Government Purchase Cards:  Government Purchase Cards are accepted at or below the micro-purchase threshold.

9b Contract will not accept the Government Commercial Credit Card above the micro-purchase threshold.

10 Foreign Items:  N/A

11 Time of Delivery:
a. Normal:  To be determined at the task order level
b. Expedited:  Contact Contractor for Availability
c. Overnight & 2-day delivery:  Contact Contractor for Availability
d. Urgent Requirements:  Contact Contractor for Availability

12 FOB Point(s):  Destination

13a Ordering Address:  Same as Contractor address

13b Ordering procedures:  For supplies and services, the ordering procedures, information on Blanket Purchase Agreements (BPAs), are found in Federal Acquisition Regulation (FAR) 8.405-3.

14 Payment Address:  Same as Contractor address

15 Warranty Provision:  Standard Commercial Warranty

25 DUNS Number:  066862558

For terms and pricing, see GSA website listing located here.
HOW TO ACCESS THE MEAD & HUNT 871 AND 899 SCHEDULES

The general steps for ordering services from the Mead & Hunt GSA Construction Management and Engineering Consulting Services are:

DEVELOP A STATEMENT OF WORK

Develop a statement of work for one or more of the services provided by Mead & Hunt under this contract. This statement should include, at a minimum, the work to be performed, location of the work, the period of performance, a schedule of deliverables, applicable standards, and any special requirements needed to complete the work.

DEVELOP A COST ESTIMATE

Develop a government cost estimate using your agency’s standard format.

REVIEW AVAILABLE INFORMATION

You can review information on potential contractors who can support your needs under their existing GSA contract at www.gsaadvantage.gov.

REQUEST A QUOTE

Issue a request for quote, which may include both technical and cost requirements, to at least three firms who hold the applicable GSA Schedule and have the proper qualifications for your task. The request should include the proposed scope of work and the time by which a response is required back by your agency.

DETERMINE BEST VALUE

Upon receipt of the quotes, determine which provides the best value for your requirements. In determining best value, you may take into consideration not only costs but also other relevant information such as technical expertise, special qualifications, and past performance.

ISSUE A TASK ORDER

Issue a task order to the firm determined to provide the best value and award the work under their existing GSA Schedule.

On-line access to contract ordering information, terms and conditions, up-to-date pricing, and the option to create an electronic delivery order are available through GSA Advantage!, a menu-driven database system: http://www.gsaadvantage.gov
DESCRIPTION OF SERVICES

SIN 871 7 SERVICES

Construction Management and Engineering Consulting Services Related to Real Property Services provided under this SIN includes construction management, engineering consulting, project management, and related professional services specifically pertaining to real property. The construction management approach utilizes one or more firms with construction, design, and management expertise to expand the customer agency’s capabilities, so that the agency can successfully accomplish its program or project. The contractor performing construction management services assumes the position of professional adviser to the customer agency. Customer agencies may utilize the construction manager as the principal agent to advise or manage the process over the project regardless of the project delivery method used. Construction management services include, but are not limited to, design phase support, procurement support, commissioning services, testing services, construction claims support, and post-construction engineering services.

The contractor performing engineering consulting services functions as an advisor to the government to assist with executing engineering tasks associated with real property. Engineering consulting services relating to real property include, but are not limited to, mechanical engineering, electrical engineering, fire protection engineering, forensic engineering, structural engineering, or any other specialized engineering consulting services that are utilized in regards to real property. Authorized engineering consulting tasks include design reviews, shop drawing reviews, submittal reviews, inspection and testing services, witnessing acceptance tests of equipment and systems, commissioning, modeling and analysis, loss investigation, facility surveys, safety evaluations, research studies, risk mitigation strategy development or reviews, and other related technical consulting services. The contractor performing engineering consulting services shall not perform the construction of real property, nor be a named party under the construction contract. Project management services relating to a construction management or engineering consulting effort are authorized.

“HIRE THIS FIRM! Truly an outstanding AE firm! ... Extremely responsive at addressing issues, adhered to an incredibly tight design schedule, and delivered well beyond my expectations. Knowledge of USAF facility requirements, processes and technical expertise are second to none.... Design sets the Wing standard for LEED compliance, architectural excellence and quality of work environment.”

Tim Riley
Former Major
Fresno ANGB

“[They] provided exceptional A/E service for our Center Runway project. They went above and beyond to help us explore several different pavement options and develop an outstanding design.... Every aspect of the design process... [was] thoroughly and professionally completed... with complete consideration of the scheduling and requirement needs of the base. I highly recommend [them] for future contracts.”

Contracting Officer
Columbus AFB, Missouri

“The new Troop Training Quarters is an outstanding facility. We received overwhelmingly positive feedback from the visiting unit personnel who stayed in the facility. It greatly improved the quality of life of the airmen training on the installation.”

Lt Col Josiah Meyers, PE
Former Base Civil Engineer
Alpena Combat Readiness Training Center
SIN 899 1 SERVICES

Environmental Consulting Services provided under this SIN includes planning and documentation services for the development, planning, facilitation, coordination, and documentation of and/or environmental initiatives. This includes EMS; EA and EIS preparation under the NEPA; endangered species, wetland, watershed, and other natural resource management plans; and archeological and/or cultural resource management plans.

In addition, environmental program and project management for environmental regulation development; climate change adaptation and resiliency planning and implementation support, including but not limited to, identifying climate risks and impacts; applying and interpreting climate and impact assessment model outputs; development and/or implementation of solutions to build climate resilience, reduce identified climate risks, and/or provide both climate change mitigation and adaptation benefits; climate decision support, risk management, and vulnerability assessments and analyses; economic, technical and/or risk analysis; other environmentally related studies and/or consultations.

Assisting with regulation compliance such as review, audit, and implementation/management of compliance and contingency plans and performance measures and permitting. This includes spill prevention/control and countermeasure plans; pollution prevention surveys; environmental regulations and environmental policy/procedure updates; waste management consulting services to provide guidance in support of waste-related data collection, feasibility studies and risk analyses; waste characterization and source reduction studies; review and recommendations of waste tracking or handling systems; waste management plans and/or surveys; waste minimization/pollution prevention initiatives; and review of technologies and processes impacting waste management.

SIN 899 3 SERVICES

Environmental Training Services provided under this SIN includes training and aiding agencies in training personnel in a variety of environmentally related subjects in order to meet Federal mandates and Executive Orders. Environmentally related trainings can be conducted on- or off-site using standard off-the-shelf, customized, or computer/web-based interactive courses. Some examples of environmental training courses include environmental management planning and O&M planning; compliance with environmental laws/ regulations; emergency response plans; environmental audits, awareness, compliance, and management; NEPA; natural habitat preservation; pollution prevention; sustainable environmental practices; water conservation; and wetlands regulation and permitting.

SIN 899 7 SERVICES

GIS Services provided under this SIN includes GIS services in support of environmental programs such as creation/enforcement of environmental legislation; CRGIS; environmental cost assessment; environmental impact analyses; environmental regulatory compliance; growth forecast modeling; habitat conservation plans; habitat modeling; mapping, cartography, and mashups (e.g., combining data from more than one source into a single integrated tool to include aerial mapping); migration pattern analysis; natural resource planning; remote sensing for environmental studies and watershed characterization for mitigation planning.
CUSTOMER INFORMATION

WHO WE ARE

Mead & Hunt is an employee-owned architectural and engineering firm with over 500 professional, technical and support staff in more than 30 offices nationwide. We have been serving clients in both the public and private sectors since our founding in 1900.

INNOVATIVE

To meet our country’s aggressive and changing needs, Mead & Hunt is continually expanding to offer innovative engineering and design services to meet a multitude of challenges. Annually, we are nominated for and win, industry and trade awards for the creative solutions we provide clients.

RESPONSIVE

Effective and responsive service is what we provide. Strong two-way communication is imperative to the success of our projects. We place the utmost importance on listening to and understanding our clients’ needs; together, we determine the best possible solution. The depth of our staff allows us to complete many projects simultaneously and keep projects on schedule and budget.

ADAPTABLE

Mead & Hunt is a nimble organization, able to adapt to the changing world in order to remain a successful business.

GROWING

Mead & Hunt is one of the largest architectural and engineering firms in the nation. Our company has consistently been ranked as a top 500 A/E design firm in Engineering News Record, as well as “Top 20 in Airports,” “Top 50 in Transportation” and “Top 50 in Telecommunications”. In addition, Mead & Hunt is recognized on The Zweig Letter Hot Firm List as one of the top 100 fastest growing A/E firms and was previously designated as a “Five Year Climber”. Mead & Hunt also stands as one of the top 10 “Best civil engineering firm to work for” in the nation according to CE News magazine.

EXPERIENCED

Our record of successful project execution and ability to provide continuity and quality of service is important. Our multidiscipline teams provide top-of-the-line planning, engineering and scientific solutions for the most challenging projects. Mead & Hunt’s principals are highly qualified, dedicated and fully involved in providing experienced leadership in undertaking any project.

COMPANY AWARDS

- Mead & Hunt ranked No. 151 on the ENR Top 500 Design Firm list
- Zweig Group 2016 Hot Firm List
- #13 in the 2015 Zweig Group Multidiscipline Best Firms To Work For

RECENT PROJECT AWARDS

- “Quality in Construction” Award (for the Airfields Pavement category), National Asphalt Pavement Association’s (NAPA), Runway 13C/31C Reconstruction, Columbus AFB – Columbus, Mississippi
- Michigan Award of Excellence, Michigan Concrete Association, Repair Taxiways T08A & T1 OA, Michigan ANG Alpena CRTC – Alpena, Michigan
- 2016 Notable Documents Award, National Conference of State Legislatures – Legislative Research Librarians, Statewide Historic Bridge Inventory, Louisiana Department of Transportation Development – Statewide, Louisiana
- 2015 Award of Excellence, Carl Anderson Conservation Project Engineering Awards, Association of Conservation Engineers, Montello Dam Reconstruction, Wisconsin Department of Natural Resources (WDNR) – Montello, Wisconsin
- 2015 Engineering Excellence Grand Award, ACEC Oregon, Environmental Assessment, Roseburg Airport – Roseburg, Oregon
- 2015 Engineering Excellence Award, ACEC Wisconsin, GMIA Airfield Safety Improvement Projects, General Mitchell International Airport – Milwaukee, Wisconsin
- 2015 Engineering Excellence Award, ACEC Wisconsin, West Campus Stormwater Facilities, University of Wisconsin-Madison – Madison, Wisconsin
- 2015 Best of State, Engineering Excellence Awards, ACEC Wisconsin, Montello Dam Reconstruction, WDNR – Montello, Wisconsin

“…consistent team focused on delivering a superior project within budget and on schedule. …Mead & Hunt’s airfield experience was essential to the completion of this successful project.”

Lt Col Dave Mack
Retired Deputy Base Civil Engineer
Truax Field ANGB
PROJECT EXPERIENCE SIN 871 7

REPAIR/RENOVATION OF BUILDING 29, JEFFERSON BARRACKS, MISSOURI AIR NATIONAL GUARD (ANG) – ST. LOUIS, MISSOURI

Mead & Hunt assessed existing Jefferson Barracks facilities to determine the ability to reuse on-site buildings to accommodate the relocation of ANG units. Building 29, a registered historic, three-story structure plus basement, built in 1898, was the first selected for re-purposing. In addition to standard renovation, it was required to convert the open-bay barracks to an open-office administrative facility this included new elevator and egress, accessible restrooms, modern mechanical, plumbing and electrical systems. The project necessitated State Historic Preservation Office (SHPO) compliance, anti-terrorism/fire protection (AT/FP) upgrades per UFC 4-010-01, progressive collapse compliance and seismic compliance to UFC 3-310-04. The major alteration and repair provides 23,000-square-feet (sf) of new administrative space, as well as maintenance shop space in the basement. Fire protection was also added to meet the requirements of NFPA 70 and 101, and UFC 3-600-01. Mead & Hunt coordinated all engineering disciplines, including subconsultants, to provide seamless design package and contract documents.

Sustainable measures were incorporated into the design after validation of life-cycle analysis showed a 15-year pay back for energy efficient HVAC innovations and water conserving plumbing. This led to a safe and efficient reuse of a historic facility to perform for future generations while maintaining the original character of the building that is part of the Jefferson Barracks Historic District.

Numerous challenges were encountered and overcome during this project. Because of damage incurred at Lambert Field ANG Base at the St. Louis Airport, many units were in dire need of new homes. The project design was accelerated whenever possible, to expedite the completion of construction documents to meet funding deadlines.

In addition the project site is located near the New Madras Fault, and had significant requirements for seismic resistance. The design team was able to provide a structural steel skeleton capable of being constructed within the existing multistory unreinforced brick building to provide the code required seismic resistance. Along with the seismic requirements, the steel skeleton design was fine-tuned to also be capable of providing progressive collapse avoidance in compliance with UFCs 4-010-01 and 4-023-03. AT/FP requirements per UFC 4-010-01 were incorporated in the design, both in structural system capabilities, as well as in planning and layout of the exterior civil work and adjacencies.

SQUADRON OPERATIONS FACILITY REPLACEMENT, FRESNO YOSEMITE INTERNATIONAL AIR NATIONAL GUARD BASE (ANGB) – FRESNO, CALIFORNIA

Mead & Hunt completed the design and provided full-time on-site construction inspection for this new 23,300 square foot (sf) building designed to LEED Gold standards. The 144th Fighter Wing (FW) and its subordinate Fighter Squadron use the building for staff training and flying mission preparations. Areas of the facility include JAFAN 6/9 secure area, flight planning, weather, dispatch, training, open and private office space, SIPR, aircrew life support, survival and equipment storage.

The building contains several classified areas: the 144th FW Command Post, the 144th FW Intelligence Division, an aircrew mission planning area, a Wing project office, three 250 sf aircrew briefing rooms and a 40 person main aircrew briefing room. The building also houses men’s and women’s aircrew locker rooms, an aircrew flight equipment locker room, aircrew flight management offices, squadron administrative offices, a visiting pilot’s briefing room, the Operations and Weather Center, extensive audio-visual equipment, extensive pre-wired work stations and an 80 person auditorium.

Mead & Hunt provided the project programming, design, contract document and procurement support services for all disciplines of the project. Our team also provided construction administration services.

Sustainable features of this LEED Gold compliant design included a 48 kW roof mounted PV array; significant north facing windows and clearstories for high levels of natural light; highly efficient HVAC system resulting in a 40% energy savings over an ASHRAE 90.1 baseline building; over 75% of construction waste diverted from landfills; over 20% of recycled content in construction materials; and over 30% water savings from LEED baseline use. The fire protection and life safety was designed per NFPA 70, NFPA 101 and UFC 3-600-01. The project was limited to small, disadvantaged, HUB-zone contractors and was successfully bid and awarded just below the construction estimate.

A significant challenge of this project was the extremely constrained site and building could not meet AT/FP standoff distances for conventional construction. Detail blast and seismic analysis were performed with materials and reinforcement then optimized to meet both criteria. The result was a significantly smaller stand-off distance without an increase in the building’s structural costs.
RECONSTRUCT RUNWAY 13C/31C, COLUMBUS AIR FORCE BASE (AFB) – COLUMBUS, MISSISSIPPI

Runway 13C/31C is a 12,000-foot-long by 300-foot-wide asphalt/concrete runway, with 1,000-foot overruns located at each end. Since its original construction two two-inch overlays, slurry sealing, and crack repairs have been completed on the asphalt portion. This project included the runway reconstruction of the entire asphalt portion with an overall dimension of 10,000-feet by 300-feet. As one of the busiest airfields in the Air Force (AF), the runway is critical to the base’s mission.

This included the removal and replacement of the existing asphalt section and underdrain system, placement of a new drainage layer within the proposed pavement section and the placement of the pavement section. Other elements of the project included remarking the entire runway, grooving the runway to help aid in surface drainage and removing rubber build-up from the remaining concrete portions.

Mead & Hunt assessed 12 pavement options and estimated each, including life-cycle costing, to aid the AF in the selection of the best pavements to meet mission and the budget - both construction and long-term operations and maintenance (O&M). The result was a full-concrete replacement. The contract was awarded within 1 percent of the estimate and resulted in zero cost increases (changes) during construction. To minimize runway closure a phasing plan was implemented for adjacent runways to remain in full operation reducing the actual construction to only six months.

To meet the desired construction award date an accelerated design schedule was satisfied with stringent quality management. Design submittals to the client resulted in very few comments with all deliverables meeting cost and schedule expectations, receiving an “Exceptional” Architect-Engineer Contract Administration Support System (ACASS) rating. Mead & Hunt coordinated all engineering disciplines including subconsultants to provide a seamless design package and contract documents.

Pre-construction phasing was specified and monitored by Mead & Hunt requiring all materials be staged, submittals approved, permits submitted, and mix designs and aggregates tested and approved before any construction began. Mead & Hunt staff attended the Omaha District pavement workshop, and provided four on-site construction inspectors throughout the six month construction period. In addition to documenting contractor compliance to the plans, specifications, and schedule, inspectors provided instant resolution of issues and provided daily progress status reports to the Government. As a result, the runway reopened on schedule and with zero cost change orders. We received a construction services “Exceptional” ACASS rating as a result.

JOINT FORCE TRAINING BASE (JFTB) LOS ALAMITOS INSTALLATION MASTER PLAN – LOS ALAMITOS, CALIFORNIA

As a task order under the California Military Department (CMD) Indefinite Delivery Indefinite Quantity (IDIQ), Mead & Hunt was selected to complete an Installation Master Plan (IMP) for JFTB Los Alamitos. The goal of the CMD was to complete a compliant Unified Facilities Code (UFC) IMP as outlined in UFC 2-100-01 to accurately plan for future requirements at the Joint Multi-Use Training Installation. CMD was completing National Guard Bureau (NGB) requirements contained in NGB Policy Letter “Real Property Master Plans for Army National Guard Training Installations” for all training installations to have a compliant IMP NLT 1 May 2018. As part of this process, CMD wanted to update their Real Property Development Plan (RPDP) completed in 2010 that currently does not adequately reflect the future requirements of the installation.

Mead & Hunt began the JFTB IMP with a project initiation phase to accurately define the project scope and outline the key components used to develop the Master Plan. Key individuals were identified and interviewed to develop project goals with future meetings and milestones established to support the IMP process. As a result a detailed work plan, project schedule and outline of all project deliverables was developed.

Mead & Hunt performed the data collection and site analysis necessary to support the visioning plan of the IMP Process. By attaining and analyzing this data and conducting the site analysis necessary to support these types of requirements, Mead & Hunt was able to provide the CMD with the information necessary to support the IMP during the visioning charrette.

The visioning charrette helped to determine the basis of planning and concept development for development of an Installation Mission Statement. The development of the Installation Mission Statement is critical in the development of the IMP as it focuses on the future requirements of the installation to support a specific mission as different courses of action (COA) are developed. During the visioning charrette three COAs were developed and from those a preferred COA developed that integrated requirements for the entire installation.

The documented Master Plan contains an outline of the organizational structure and illustrative plan that provides a general overview of the IMP. It outlines the purpose and scope, planning process and planning assumptions used for the development of the IMP. This establishes the future standards and provides a plan for implementation to where the Installation is going in the future.
FEDERAL EA/STATE EIS FOR RUNWAY 13/31 SHIFT AND EXTENSION, DETROIT LAKES-BECKER COUNTY AIRPORT – DETROIT LAKES, MINNESOTA

The purpose of the project was to resolve numerous Federal Aviation Administration (FAA) design standard deficiencies, including non-compliance of the runway safety area, runway object free area, and Part 77 imaginary surfaces. Earlier environmental planning efforts for this project had been undertaken, but not brought to successful completion. Over a decade lapsed between the previous efforts, and due to both this time lapse, changed conditions and environment, a challenge was to develop a scope that utilized these previous efforts appropriately. The project also involved extending the primary runway to meet runway length requirements for jet users; providing a full parallel taxiway; and implementing a precision instrument approach. Because the project would affect wetlands, water quality and wildlife in the area, the NEPA and Clean Water Act Section 404 processes were merged to improve the efficiency of the environmental process.

Mead & Hunt led the NEPA/404 merger process, which included participation by numerous government resource agencies, as well two public involvement events. The project also included an in-depth land use analysis for the runway protection zones (RPZs) associated with the improved runway, which was approved by FAA Headquarters in July 2016. The Final EA was released along with the FAA’s Finding of No Significant Impact (FONSI) Record of Decision in August 2016.

By approaching the project in a spirit of cooperation and perseverance, we were able to build consensus regarding the need for the project, identify a development plan that minimized impacts to wetlands and other environmental resources, and cultivate collaborative environmental mitigation strategies that were acceptable to all interested parties.

The most challenging aspect of this project was to develop, analyze and select a runway alternative that was compatible with the long-term facilities plan for the City’s Wastewater Treatment Plant (WWTP). This plan had important implications for the runway project, as it included discontinued use of WWTP facilities on and surrounding the airport and upgrading the primary treatment plant located approximately one half mile from the project area. Mead & Hunt collaborated with the City’s WWTP consultant to identify a long-term solution that improved water quality in the area and enhanced compatibility of the airport with abandoned and upgraded WWTP facilities. The conceptual wetland mitigation plan developed for the project involved utilizing areas currently occupied by WWTP facilities for replacing wetlands affected by the preferred alternative. Approximately 32.3 acres of shallow marsh habitat were created in these areas.

The analysis found that the No Action alternative failed to meet the purpose and need. It also determined that many of the options listed above were not feasible from an operational and/or financial perspective. Two development alternatives that involved a shift and/or shift and a rotation were further evaluated in the FEA and each of these alternatives had similar environmental impacts. In accordance with Council on Environmental Quality’s 40 CFR 1502.14, the FAA is required to identify a Preferred Alternative. The shift of the runway with a counterclockwise re-alignment was selected as the preferred alternative because it involved significantly less earthwork and was much lower in cost.

An alternatives analysis was also conducted for the terminal improvements. Five alternatives including the No Action were evaluated. Constructing a new terminal at a new location along the realigned runway was selected as the preferred alternative.
PROJECT EXPERIENCE SIN 899 3

STATEWIDE HISTORIC BRIDGE INVENTORY, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (LADOTD) – STATEWIDE, LOUISIANA

Louisiana’s Programmatic Agreement (PA) executed by the LADOTD, Federal Highway Administration (FHWA), State Historic Preservation Office (SHPO), and Advisory Council for Historic Preservation (ACHP) is the culmination of a nearly five-year effort. The agreement outlines program planning and procedures for managing 122 historic bridges throughout Louisiana. The PA documents bridges identified as historically significant, outlines procedures for managing the state’s historic bridges, facilitates project coordination under Section 106 of the National Historic Preservation Act (Section 106), and provides training in historic bridge compliance and rehabilitation practices. To fulfill commitments made under the terms of the PA, historic bridge rehabilitation project activities conducted in Louisiana need to result in no adverse effect on the historic structure.

Highlights of commitments in the PA include:

- A statewide management plan for historic bridges that provides guidance on best practices for rehabilitation.
- Individual management plans for 33 “preservation priority” bridges that provides the LADOTD and local owners with a road map for maintenance and preservation of these structures.
- Documentation of the state’s major bridge types with Historic American Engineering Record documentation including history, large-format photographs and measured drawings.
- Training for the state’s bridge engineers, planners, environmental specialists and consultants in approach to regulatory compliance and appropriate rehabilitation methods for historic bridges.

STORMWATER TRAINING UPDATES, WAYNE COUNTY AIRPORT AUTHORITY – DETROIT, MICHIGAN

The Wayne County Airport Authority (WCAA) operates Detroit Metropolitan Wayne County Airport, a large hub commercial service airport, and Willow Run Airport, a corporate, freight, and GA airport. WCAA conducts periodic stormwater training for employees, tenants, and construction contractor staff as a compliance requirement in its NPDES stormwater permits for the facilities. Through an environmental on-call services contract, Mead & Hunt and its subconsultant Design2Train significantly restructured and expanded existing older training materials that had become obsolete. New web-based training modules were developed for two distinct audiences: WCAA employees, and tenant and construction contractor employees.

Mead & Hunt created two Web-based Training (WBT) lessons of 30 minutes instruction including a 10 question quiz for Tenants and Contractors and one hour instruction WBT including 25 questions for Airport Staff.

**Tenant-Specific Environmental Overview**

A 30-minute lesson containing five basic elements that Tenants (supervisors and workers) received regarding airport specific environmental related issues. Course included a downloadable 1-2 page Guide of Resources, 10 question online quiz and course completion certificate emailed to participant.

**Contractor-Specific Environmental Overview**

A 30-minute lesson containing five basic elements that Contractors are required to know about airport specific environmental related issues. Course included a downloadable 1-2 page Guide of Resources, 10 question online quiz and course completion certificate emailed to participant.

**Staff Specific Environmental Overview**

A 1 hour lesson containing up to 10 elements (with information from both Tenant and Contractor trainings recycled) that Airport Authority Staff were required to know about airport specific environmental related issues. Course included a downloadable 1-3 page Guide of Resources, 25 question online quiz and course completion certificate emailed to participant.

All lessons contained “need to know” information, and all participants were given access to web resources for additional information. The Airport Staff version of training included exercises that required viewing web resources for specific information.

An additional item included incorporating the Sanitary Sewer Discharges and Sustainability topics into three versions of training modules for WCAA staff, tenant staff, and contractor staff.
PROJECT EXPERIENCE SIN 899 7

CITY OF MILWAUKEE INTENSIVE INDUSTRIAL SURVEY, WISCONSIN HISTORICAL SOCIETY – MILWAUKEE, WISCONSIN

The goal of the project was to document all known industrial buildings at least 40 years in age within the Milwaukee city limits for the Wisconsin Historical Society (WHS). Project work consisted of a reconnaissance-level survey of all pre-1975 buildings currently identified on City of Milwaukee zoning maps as industrial (zoning categories included Industrial Office, Industrial Light, Industrial Mixed, and Industrial Heavy). Excluded from the survey were properties already listed in the National Register of Historic Places (National Register), either individually or as contributing resources in a historic district. In addition, any extant buildings identified during field survey that were historically industrial but were now under a different zoning category, were also surveyed and evaluated. Noncontributing resources in historic districts were reevaluated to document if they can now be considered contributing to the district or individually eligible. Intensive survey was conducted for properties identified as potentially eligible for the National Register or within a potential National Register-listed historic district. Site specific research was performed for these properties and a final intensive survey report was prepared.

Existing data identified over 1,600 parcels currently zoned for industrial use and more than 1,500 previously surveyed properties in the WHS’s Architecture and History Inventory (AHI) database with a classification that could be considered industrial. The AHI SQLServer database houses information on over 140,000 historic buildings, structures, and objects in Wisconsin. The relational database includes tabular information, images, and geographic locations, assembled over a period of more than 30 years. In many cases, the information may be outdated and some properties may be altered or nonextant.

A solution was needed to manage and submit this large amount of data in a format the client could easily manage and integrate into their existing system. As part of the project, survey results for newly identified properties as well as updated information on existing properties were to be provided to WHS in a format that would seamlessly integrate with the AHI. The project team also needed a method for tracking and analyzing the survey data. The goal was to develop a solution that would manage the survey data, allow for analysis back in the office, and provide seamless integration with the AHI database for project deliverables. Mead & Hunt proposed a GIS solution: cloud-based mapping and data management using the ESRI ArcGIS Collector App.

Mead & Hunt GIS specialists and WHS staff coordinated to develop Extract-Transform-Load (ETL) workflows for reviewing and managing data in the field; editing and adding records; and returning data to the AHI database at the end of the project.

LA CROSSE REGIONAL AIRPORT (LSE) HEIGHT LIMITATION ZONING ORDINANCE UPDATE, LA CROSSE REGIONAL AIRPORT – LA CROSSE, WISCONSIN

The La Crosse Regional Airport, in conjunction with a local electrical utility, undertook an analysis of proposed electrical transmission corridor upgrades in relation to the existing Airport Overlay Zoning District and Height Limitation Zoning Ordinance that exists within three miles of the Airport. The project led to design modifications on specific transmission poles and concluded that the majority of the poles that violated the current ordinance were able to be granted a variance since the approach and departure procedures at the airport would not be impacted. Once the municipal ordinance was revised to utilize 3D GIS data, Mead & Hunt developed GIS Analysis tools for public and internal use to assess height limitation and airport overlay land use.

3D Analysis was used to determine the transmission pole penetration of the existing height limitation zoning surface and the Airport’s current and likely future approach and departure surfaces. The results of the analysis identified poles that were penetrating the zoning surfaces, but would not impact the airport; those poles were able to be granted a variance in the building permit process. Other poles were redesigned to comply with the ordinance.

The analysis in this project highlighted the limitations of a height limitation zoning ordinance that was based upon township and section lines. Some areas were not protecting the approach and departure surfaces while other areas were protecting more than 100 feet above the required surfaces; potentially limiting development that would not negatively impact the airport. Revising the Height Limitation Zoning Map to the actual 3D surface allowed the airport to adequately protect its runways while consistently applying the zoning regulations.

The zoning height grid was replaced with a 3D surface represented by ten foot contour lines that enable those seeking a permit to view the allowable height within three miles of the airport. A paper map was also produced and recorded as part of the municipal ordinance. The map shows the ten foot contours and can address all height limitation zoning questions without the need for additional GIS analysis.
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