

# Public Works

## D I G E S T

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**Master Planning,  
Housing, and  
Barracks**

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*At U.S. Army Garrison Hawaii, planners are working to convert existing streets into safe and efficient avenues and boulevards to support multi-modal transit, infill development, and stormwater management.  
(Image courtesy of The Urban Collaborative)*



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## Polaski caps 6 years as Camp Humphreys DPW, Transformation lead

by Bob McElroy

**C**AMP HUMPHREYS, Korea — When Dennis Polaski arrived here more than six years ago, transformation was a vision of Camp Humphreys' future that was just being realized.

Polaski came to Camp Humphreys to lead the Directorate of Public Works and the garrison's transformation into the home of U.S. Forces Korea. Either job is more than full-time, together they presented a demanding, day-in, day-out effort and more patience and perseverance than humanly possible.

He brought considerable education and experience to the Humphreys job — a bachelor's degree in Civil Engineering from the United States Military Academy, an advanced degree in Applied Mathematics from the Naval Postgraduate School and six years working the transformation process at U.S. Army Garrison Japan.

"Humphreys wanted a leader, someone to lead the effort to transform Humphreys into this hub and lead all aspects of transformation and, at the same time, manage a very dynamic and complex public works organization," Polaski said.

Polaski did a bit of research before coming to Camp Humphreys, and it showed the transformation was well underway. When he arrived here he quickly realized he was misinformed.

"I arrived and realized right away that wasn't the case at all," he said. "The information on the website was outdated; I realized there'd been slips to the program, I was getting here on the front end of the program and was going to have a lot work ahead of me."

Polaski welcomed the challenge because it gave him the opportunity to influence the future of Camp Humphreys and the building of more than 600 new facilities.

He also realized that the master plan had to change because while buildings were going up, much of the infrastructure that supports a community had yet to be

designed and built.

"I'm talking about the water, sewer, electrical, roads, communications networks, manholes, all that makes up a utilities infrastructure," Polaski said. "Normally on a large-scale project all of the utility infrastructure is put in first, then the vertical. That was not the case at all. That's proven to be one of the biggest challenges to this program."

Polaski said trying to synchronize construction of the utilities infrastructure and vertical facilities has been a work in progress.

"Various analogies have been used to describe it, like you're building a plane in flight, or pulling the tablecloth off a table while a family is having dinner without disrupting anything," he said.

Polaski and the Directorate of Public Works Master Planning team faced another early challenge — changing the master plan to relocate several major facilities, in particular the new downtown. The plan called for it to be built on top of the existing downtown despite a growth in the installation's population, going from 9,000 to 36,000.

"We decided we couldn't do it, there were construction issues, funding issues ... we decided to move the downtown," he said.

Polaski said he knew it would be a fight convincing people at higher levels to move the downtown but he was certain it was the best thing to do. He and his team thoroughly analyzed the situation, developed solutions and built their case.

It took a while to get everyone on board with it but they realized it was the right thing to do, he said.

The revised plan called for the downtown and other facilities to move to the new land Camp Humphreys acquired as part of Transformation. The new downtown would be closer to family housing, Soldier barracks and work areas. It created a community where everything



*Dennis Polaski recently completed more than six years as U.S. Army Garrison Humphreys Director of Public Works and as the garrison's lead for Transformation. Some of the new facilities he helped to bring online can be seen behind him.  
(Photo by Bob McElroy)*

is a 10- to 15-minute walk from the main population.

"It just made sense," Polaski said.

As Transformation progressed, Polaski and his team knew that the support they provided had to grow to sustain a growing, changing community.

"Camp Humphreys is very different now than when I arrived, it's different in so many different aspects," Polaski said. "There weren't a lot of sidewalks here, except for existing downtown area, there were fewer families back then, but as we've grown we've had to grow to support them."

In the next few years, the Transformation will draw to a close and construction will cease, but there's still much work to be done, Polaski said. Much of the older parts of the installation, the legacy facilities, need to be rebuilt and modernized.

"Over the next couple years as we wind  
(See Polaski, page 4)



*(Polaski, continued from page 3)*

down the Transformation, we have several billion dollars of additional improvements, additional structures planned to address other requirements,” he said.

Modernization plans include a 13-phase program to upgrade facilities around Desiderio Army Airfield and provide barracks, Soldier-support facilities and vehicle maintenance facilities for units that have been introduced to Korea since the Transformation began.

Polaski leaves Camp Humphreys confident that he did his level best and

made a difference. His plans are not firm but he could land at a position back in the United States or continue to serve overseas.

Reflecting on his early days at Humphreys, he recalled an initial success — when the garrison celebrated Transformation being 1 percent complete.

“Looking back that sounds kind of silly that we were celebrating that type of success but with all of the effort that had gone into getting to that point and we were actually just starting to execute the program, it was a big deal,” Polaski said.

More than six years later Polaski

looks with pride on all he and his team have accomplished, especially now with Transformation being 65 percent complete and seeing new buildings, roads and infrastructure finished with many more to follow.

“It’s just a wonderful experience to look back and think that I was a part of this, and that I had an impact on this major program,” he said.

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*The new Camp Humphreys as seen from one of the recently built Family Housing Towers. New family housing is being built next door (left of photo), while schools, barracks and support facilities are all within walking distance of each other. (Photo by Bob McElroy)*



# Planning for resilient, compact communities: It starts with a great plan

by Jerry Zekert

**A**s we start the 2016 calendar year, it is traditional to kick off the *Public Works Digest* publication year with the Master Planning and Housing edition. Having planning and Housing as a theme to start the year gives us pause to really focus on the two prime considerations – providing quality housing of our Soldiers and their Families and be able to plan for a quality installation in a manner that respects in a sustainable manner the tenets of environmental stewardship, effective energy use, and defines resilient solutions that respond to natural and man-made situations including climate change.

To plan effectively for the future, we must prudently use the buildings, land and infrastructure effectively today. We must focus on financially sustainable solutions that minimize operations and maintenance expenses so we can effectively use our limited energy and water resources. Our planning strategies of compact development should include mixed use/ multi-story or repurposing solutions that embrace the concept of footprint reduction.

In the 2013 and 2014 National Defense Authorization Act(s), Congress directed all the Armed Services to ensure they have completed installation master plans that embrace these planning principles. The Department of Defense directed that all the Services and defense department agencies meet this requirement by Oct. 1, 2018. Achieving these goals requires

more than just a completed master plan. It means ensuring our planning practices embrace these considerations, and that we have a trained and skilled master planning community of practice that has the knowledge in these planning principles.

According to the defense department, all planning practitioners (including installation and design and construction agencies) must complete at least 32 hours of accredited planning training every two years to maintain competency. This requirement ensures we are following the best practices.

In this edition, you will be provided insight in best planning techniques in compact, mixed use development. You will learn about the new Executive Order on Energy and Sustainable development that are guiding principles used for successful master planning. You will read about great case studies in area development planning and planning in contingency operations as well as planning for U.S. Army Corps of Engineers civil works recreational lakes and the U.S. Army Engineering Research and Development Center research campuses. This edition also will give you a handy reference on accredited master planning training curriculum offered by the Army Corps of Engineers as part of the Master Planning Institute.

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*The historic I Corps headquarters at Joint Base Lewis-McChord, Washington, is an excellent example of a resilient building in a compact, walkable district. It uses durable materials, narrow wings, and high ceilings to improve energy-efficiency and create a desirable place to work and is within walking distance of other administrative buildings, family housing, and the installation's retail center. (U.S. Army photo)*

Zekert is chief of the Master Planning Team, Headquarters, U.S. Army Corps of Engineers. 

Public Works Digest		
2016 Theme and Deadline Schedule		
Issue	Theme	Deadline
Jan-Feb-Mar	Master Planning, Housing and Barracks	30-Nov-15
Apr-May-Jun	Environment and Sustainability	4-Mar-16
Jul-Aug-Sep	Operations, Maintenance and Engineering	3-June-16
Oct-Nov-Dec	Energy, Water and Waste	2-Sept-16



## Master Planning assists in achieving sustainable, resilient installations

by Andrea Wohlfeld Kuhn

**R**esiliency...the ability to “spring back” from adversity...to adapt...to maintain...to anticipate and prepare for...recover...and maybe even improve and come out stronger in the end. We’ve all heard the term “resiliency” used quite a bit lately, whether in reference to people, situations, and now military installations

The U.S. Army Corps of Engineers recently formed a Project Delivery Team to examine our processes and procedures to determine our resiliency capabilities. The overall strategic goal is to mainstream resiliency throughout the Army Corps of Engineers.

The master planning process can be used to achieve resiliency at military installations, which are similar to towns or cities where residents live, work and play and seek great neighborhoods and quality of life. The master plan provides the roadmap to achieve a sustainable, resilient, energy efficient installation; and also to preserve long-term military capabilities.

As the largest land owner of all federal agencies, the Army has a major interest in maintaining its portfolio at the right size and in a sustainable, resilient manner.

### Policies

Recent policies such as Executive Order 13693 “Planning for Federal Sustainability in the Next Decade” contain specific goals for energy reduction and improved environmental performance. Additional policies, such as the Office of Management and Budget’s “Reduce the Footprint”, call for freezing or reducing existing square footage to achieve cost savings. The master planning process can promote resiliency by ensuring these footprint reduction efforts are conducted on a holistic basis, and not on an isolated building by building basis. Long-term installation capabilities must be preserved. Unified Facilities Criteria 2-100-01 contains 10 key strategies to ensure that installations are created and maintained in a resilient manner. These strategies ensure that installations are

flexible enough to meet rapidly changing missions while maintaining their resiliency attributes.

### Achieving Resiliency

The first step in the master planning process is developing an installation vision. It can include references to people, places, and installation capabilities. It should be developed with input from all stakeholders and address current and future needs, which will then form the basis for setting goals. Stakeholder input is key to ensuring that planning is not done in a vacuum. Stakeholders include those who live and work on the installation as well as officials and residents from neighboring communities.

Compliance with all environmental laws and regulations is a must to achieving resilient military installations. A resilient installation is a strategic one in terms of land use. The installation must examine its land use and facility utilization rates to determine if current practices make sense or if different utilization patterns would create a more resilient installation. At the same time, awareness and compliance with antiterrorism/force protection regulations; natural, historic and cultural resources regulations; and all other pertinent regulations must be followed.

To facilitate planning, area development plans are prepared and serve as “mini master plans” by dividing the installation into identifiable districts based on geographical features, land use patterns, building types, and/or transportation networks. These plans provide a mechanism for step-by-step planning which is then integrated into the overall master plan. Alternatives such as new construction versus renovation or repurposing should be examined. Cost savings may be realized by renovating rather than building new facilities. This strategic, systematic approach will optimize real property utilization and create a more resilient installation.



*Resilient master planning takes teamwork. (U.S. Army Photo)*

*(See Resilient, page 7)*



# Facility Occupancy Verification Survey adds new planning dimension

by April Banks and Maureen Goodrich

**A**s Headquarters, Installation Management Command Master Planning Branch continues to support master planners across all installations in reaching compliance with Unified Facilities Criteria 2-100-01, Installation Master Planning, a new field planning tool has been tested and is now in full implementation. Termed a Facility Occupancy Verification Survey, or FOVS, the tool is developed to survey, verify and tabulate existing facility data within a subject planning district to be used at the Area Development Plan charrette.

Prior to starting to an Area Development Plan, the facilities within the subject district will be “field surveyed” to verify existing facility data about each facility, to include tabulating the percentage of utilization and providing feedback on available space. The field survey data will consist of a visual survey of interior facilities, assess personnel counts, gross square footage, basic (3-digit) category codes, unit identification code and unit description. Existing drawings and real property inventory information for each facility will be reviewed and compiled for use in the field.

The final product of the FOVS is a map that is a spatial visual tool for decision making. During the charrette,

the FOV map is used as a visual tool to create options for the area development plan by allowing charrette team members to easily identify facilities’ current use, occupancy, condition, deficiencies and excess of facility category codes, and capacity potential. Charrette members use the map to determine if facilities were in the proper location for access, function, condition, quantity and were meeting operational requirements for base operations and mission support. The charrette members’ analysis from the map aids in making decisions on facility conversion potential, co-location of functions, facility demolition, phasing of infrastructure for capital improvements and future development and installation zoning. The FOV map is a visual spatial tool that provides data necessary for a well-planned Area Development Plan.

The first FOVS was tested at White Sands Missile Range Main Post District, New Mexico, with 231 facilities identified and surveyed during three and one-half days by a four-man team (plus one representation from Installation Management Command). Two teams divided the district into grids and worked in an organized fashion to complete as many facilities as possible.

Installation Master Planner April Banks

internally coordinated with stakeholders prior to conducting the survey. This was critical to the success of the survey as stakeholders were informed of the survey’s intent and their role in providing information that would then be used for the Area Development Plan charrette. Most facility managers were aware of the survey and were prepared to walk with the team during the survey and provide additional on-site information. This made the first FOVS extremely successful and produced important information for the development plan.

Aside from the final map depicting the FOVS data, other themes were identified and included;

- Most facilities are sized right for the function/mission
- Predominant facilities issues identified included roofs, lack of storage and heating, ventilation and air conditioning issues.
- Several facilities are specialized, consisting of research laboratories with sophisticated equipment and missions.
- Laboratories lack the ability to be easily converted into administrative space. Administrative space, however, can easily be converted into lab space if increased security is not necessary.

(See FOVS, page 8)

*(Resilient, continued from page 6)*

A resilient master planning strategy addresses both mission reductions and future growth. Resilient infrastructure solutions focus on connected utility and transportation networks and alternative or redundant capabilities in times of disaster or failure. Developing more compact building footprints can conserve energy while at the same time providing green space for recreational and/or storm drainage purposes. Ascertaining an installation’s capacity also is key to achieving resiliency. The master plan should indicate areas

available for future growth and depict capacity for such growth in response to possible future changes. One key benefit of a master plan is subsequent development of a regulating plan. The regulating plan will guide both land use and building form by providing standards that address building use in terms of form, massing, and height; contain street standards; and provide landscape standards for the natural and built environment.

## Maintaining Resiliency

Remember a master plan is a living document, and therefore by nature resilient! The plan is a guide and a reference

document, and should also be updated on a regular basis. By setting the standards and clearly defining the vision, goals and objectives, a framework plan developed in accordance with the master plan will provide clear guidance for compatible development on the installation. This will ensure the capability for an installation to remain resilient to ever-changing missions and installation needs.

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# Planning and Programming: Implementing the Master Plan

by Jerry Zekert

With the 2012 update to Department of Defense Unified Facilities Criteria on Master Planning 2-100-01, the plan defined a suite of design requirements with which all projects must comply.

From parking and street standards to landscaping and building siting, these parameters must be translated to programming and design instructions. Listed below are some pointers to smooth this transition.

- Ensure all project programming documentation (Department of Defense Form 1391) succinctly states the specific criteria that the project must follow. This includes low-impact development practices, street and sidewalk standards, energy and sustainability tactics, and landscaping. It is recommended that separate Department of Defense Form 1391 site plans and functional layout sketches be provided. Double check to make sure all quantities are synched.
- Develop the Plan Summary described in the Unified Facilities Criteria that translates the planning principles in the affected Area Development Plan with the project documentation, Installation Development Plan and Regulating Plan. From these documents, programmers and planners can define the requirements in the project planning charrette.



A rendering for the Parks Reserve Forces Training Area, Dublin, California, helps link a building's design to the installation's planning standards. (Image courtesy of the Urban Collaborative)

- During the design, ensure a thorough site planning review takes place. The evaluation follows the Tier 1 and Tier 2 planning assessments cited in Unified Facilities Criteria 2-100-01.

The programming and design of projects within the installation master plan require careful and thorough coordination. These pointers will help installations complete

projects that comply with the installation's established planning protocols.

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(FOVS, continued from page 7)

- Many storage facilities that support missions are spread out and around the installation in a haphazard way, which was a necessity at a time when space was not readily available. Several storage facilities could be collocated or organized better to reduce the footprint.
- Some missions are in "expansion mode" and are working with the Department of Public Works to extend or redesign fence lines or create secure enclaves.

- Requests for exterior equipment shelters were frequent. Damaging winds and weather elements impact the equipment that can not fit into an enclosed bay, causing premature wear out or damage beyond repair. An example is tires on the trailers that carry missiles. The tires wear out quickly and must be replaced because of exposure and damage from high winds, sand and solar rays.

The Facility Occupancy Verification Survey can add a new dimension in planning. Contact the Headquarters Installation Management Command

Master Planning Branch for assistance in getting more out of an Area Development Planning by using a FOVS.

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# Mixed Use solutions offer ultimate footprint reduction strategy

by Jerry Zekert, Mark Gillem and Courtney Cross

**W**ith the advent of low-density, auto-oriented development, single-use patterns have prevailed and resulted in more land and energy intensive development patterns. Now federal planners are again looking to mixed-use as a way to make military installations more effective and efficient thanks to a new focus on energy efficiency, convenience, and even the value of land.

The National Defense Authorization Act of fiscal year 2014 calls for horizontal and vertical mixed-use development to address sustainable planning requirements for installation master plans. Incorporating mixed-use planning also supports emission requirements, employee commuting and fleet performance requirements established by Executive Order 13693 Planning for Federal Sustainability in the Next Decade. There are compelling reasons to favor mixed-use development -- the widespread adoption of zoned development during the course of the last century has led to unfavorable sprawl and automobile dependency. The laudable intentions that led to single-use zoning were to limit incompatibilities between uses such as protecting dwellings from the noise of industrial traffic. However, segregating residences from places of work has resulted in intolerably long commutes, traffic congestion, vehicular pollution, and reduced quality of life due to time spent commuting and lack of access to community resources. A return to mixed-use development can be beneficial in many ways -- neighborhoods can once again be rich with amenities and workplaces can be closer to residences promoting compact development and reducing the problems associated with commuting.

Studies comparing sprawling suburban communities to urban areas find substantial costs. According to research by Rutgers University, mixed-use patterns can reduce the cost of roads by 25 percent and utilities by 15 percent. Other research has found that people drive up to 50 percent less in mixed-use districts. Additionally,



*In this mixed-use building at Fort Belvoir, Virginia, family townhomes above retail shops start to define a new main street for the Installation. (Photo by Mark Gillem)*

according to Donald Appleyard's landmark 1982 study of San Francisco streets, car-dominated landscapes resulted in residents who had three times fewer friends than those living on streets with less traffic. Since mixed-use neighborhoods are not dominated by vehicles, community cohesion is also improved, and arguably this is even more vital in military development given service members and their families face extraordinary stressors and must rebuild their social networks upon each reassignment. In these financial constrained times, where we have a focus on footprint reduction, it is imperative that mixed-use solutions are essential.

Therefore, for military planning, mixed-use development is a regulatory imperative that has countless benefits in support of mission efficiency and quality of life for service members. Horizontal mixed-use development is comprised of compatible uses that may include places to shop, dine, live, worship, work, and play. A mixed-use development promotes town centers and

town squares that provide convenient, easy access to amenities for residents living nearby. Living and amenities can be easily accessed through a network of connected sidewalks, making it a safe, comfortable, pedestrian-friendly destination with clear wayfinding throughout. Vertical mixed-use buildings, which incorporate a variety of uses in one structure, can achieve a much higher density than the same uses spread out horizontally in different facilities, resulting in a very land-efficient development pattern.

According to amendments to Section 2864 in the Fiscal Year 2014 National Defense Authorization Act, "A master plan for a major military installation shall be designed to (use) multi-story, mixed-use facility solutions that are sited in walkable complexes so as to avoid, when reasonable, single-purpose, inflexible facilities that are sited in a sprawling manner. Vertical mixed-use infrastructure can integrate government, non-government, or jointly

*(See Mixed Use, page 10)*



# Narrow wing buildings bring in daylight, increase productivity

by Jerry Zekert and Lyndsey Pruitt

**H**igher productivity, lower absenteeism, fewer errors or defects in products, positive attitudes, reduced fatigue, and reduced eyestrain; are these the effects of a large cup of coffee? These are the benefits of different wavelengths of light on building occupants as summarized by the National Renewable Energy Laboratory. As architects, engineers, and planners, we are rediscovering daylight as a pure source of light that contains all wavelengths throughout the day.

Before 1940, daylight worked in combination with combustion lighting for all interior lighting needs. In the next 20-year span, electric light dominated the market and quickly became the design precedent. Electric light is less energy-efficient than daylight because electric light loses a large portion of energy in transmission where as daylight is direct-

source energy. Further, daylight is generally cooler per lumen than electric light; thus, in a lumen per lumen comparison, electric light requires a larger cooling load offset. With the advent of sustainable building design, architects and engineers are challenged to integrate daylight for energy savings but should be aware of the superior quality of daylight and subsequent physiological and psychological effects.

There are many forms of integrating daylight into buildings. Typically they fall into four categories: skylights, clerestories, windows, and light tubes. Skylights, penetrations in the roof or ceiling to allow light infiltration, were used in Roman Architecture. Conventional skylights have numerous functional issues such as hot spots, glare, and uncontrolled heating. Modern technology has evolved to diffuse the incoming light through prismatic skylights. A clerestory is a raised section

of interior above the adjacent rooftops to allow light to penetrate. It is historically part of the nave and transept of churches. Clerestories throw daylight back into spaces and can diffuse the light but do not provide views. Clerestories and skylights generally only work for one floor making them of limited value in multi-story buildings.

Almost every building has windows, the penetrations in a façade that allow daylight and views directly in and ornament the building exterior. Window technology has come a long way with various coatings, gas fillings, and layers to develop composite systems with better insulating properties. Light tubes are recent technology in which daylight is piped through a highly reflective tube and delivered where needed. Light tubes are typically used when mechanical

*(See Narrow Buildings, page 11)*

*(Mixed Use, continued from page 9)*

financed construction within a single unit.” Combining complementary functions also minimizes the need for multiple Anti-Terrorism Force Protection buffers and extra utility lines. In addition, horizontal mixed-use areas contribute to a vibrant and safe retail core by bringing more “eyes on the street” from residences or offices on upper floors.

Mixed-use planning is also addressed in Unified Facilities Criteria 2-100-01 (Installation Master Planning). Mixed-use planning supports several other master planning strategies including: **sustainable planning** that calls for horizontal and mixed use development for the reasons described above; **natural, historic and cultural resource management** that calls for land preservation and mission compatibility; **healthy community planning** to create healthier environments for service members and

their families; and **defensible planning** that calls for appropriate Anti-Terrorism Force Protection setbacks.

This pattern has been well-tested on military installations. In the 1950s, many of the old “rolling-pin” barracks had dining halls attached to barracks as well as company operations facilities. At Joint Base Lewis McChord, Washington, new housing is at the core of the installation creating a walkable, horizontal mixed use district. And some of the buildings use vertical mixed-use with ground floor commercial uses and housing above. Fort Belvoir, Virginia, provides another excellent model for mixed-use. The master plan emphasizes walkability and connectivity. Enhanced livability measures are well supported there, proving how both horizontal and vertical mixed-use development can make a military installation function better for those working or living there, even as the population increased drastically during the intervening years.

Master Planners’ “planning tool-boxes”

should include mixed-use solutions that will:

- Integrate compatible uses within districts such as recreation facilities and dining options in residential areas;
- Collocate places to live, work, shop, dine, worship, and play into vertical mixed-use buildings whenever possible;
- Locate public uses on active ground floors and follow a vertical public-private gradient; and
- Site mixed-use buildings around community centers and campus quads.

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*(Narrow Buildings, continued from page 10)*

or structure equipment prevents direct access to daylight.

Even with the most aggressive treatment, daylight quality and quantity greatly reduces after 30 feet. Thus, a building floor depth of no more than 60 feet from south to north façade is the most viable option for a fully day lit interior. Narrow buildings are defined as 60 feet or less in width and considered daylight-optimized. It is crucial that planners consider daylighting and narrow building footprints when developing capacity plans so buildings are optimized from the initial phase.

To complete a daylighting system, couple the strategy with a day-responsive lighting control system. This system automatically adjusts the interior electrical lights to account for daylight when determining the lighting level for each space. When coordinated from planning through architecture and engineering to operation, a well-designed daylighting system can reduce the cooling energy use due to electric lighting systems 10 to 20 percent, according to the Department of Energy's Federal Energy Management Plan.

Taken together, the use of narrow wings can have substantial energy benefits. For example, the National Renewable Energy Labs new lab facility in Golden, Colorado, has wings of 60 feet and a resulting energy use that is 50 percent less than today's norm for similar buildings. Likewise the new building for the U.S. Army Corps of Engineers Seattle District uses about half the energy of a typical office building in part due to the tremendous access to natural light. In the building, the wings are created by the use of a large atrium that effectively splits the building in half and allows light to penetrate deep into the multi-story buildings.

Narrow wing buildings are not new, however. Many historic buildings on



*Rushmore Center is a consolidated administrative building at Ellsworth Air Force Base, South Dakota, with 50 foot-wide wings that allow most occupants to access great views and natural light. The Omaha District of the U.S. Army Corps of Engineers served as the design agent for this award-winning project. (Image courtesy of Mark L. Gillem)*

military installations are based on the narrow wing model and are as narrow as 40 or 50 feet. These buildings were built before the days of air conditioning and unlimited energy, and had to be efficient. And now they are some of the most loved buildings at many installations because of their access to natural light and even natural ventilation.


In addition to reduction in energy, narrow buildings allow more uniform access of occupants to daylight, which has many beneficial physiological and psychological effects. Why is it that the boss always gets the corner office or the one with windows? It is largely because status is associated with access to natural light. However, everyone deserves an office with access to natural light.

In recognition of the value of narrow wing buildings, Unified Facilities Criteria 2-100-01 (Installation Master Planning) states that "buildings of any configuration with footprint elements of approximately 50 feet or less (wings, central courtyards, etc.) can allow natural light deep into the building, which, when combined

with energy-efficient glazing, reduces energy consumption. Narrow buildings with operable windows also allow natural ventilation to effectively flow through the interiors, which can reduce energy costs associated with air conditioning. Narrow buildings can be used to define outdoor spaces and can be used to infill development sites across an installation."

The relevance to planners is straightforward. The criteria says that "In terms of planning, when laying out building footprints on Illustrative Plans, planners should generally use building footprints no wider than 50 feet." This is a good prescription for more energy-efficient buildings that are simply better places to live and work.

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# Establishing a vision for the future of research and development

by U.S. Army Engineer Research and Development Center

The U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, recently launched an installation planning program to ensure the campus grounds and facilities meet the needs of the center's role in the future at the leading edge of research and development.

The installation planning is an expansion of the mission planning program used throughout the Army. According to the Deputy to the Commander, Henry "Hank" McDevitt, mission planning is how facility managers take a monthly look at the condition of buildings and grounds under their care. Installation planning takes a further step to maintain, expand and enhance facilities on a 25-year schedule, typically broken down into five-year increments.

A key motivation in establishing the new program is the vision of the center's Director, Dr. Jeffery Holland. His vision focuses on enhancing and expanding the center's reputation as a key destination for researchers and engineers. The current

construction of the new headquarters building is one of the first steps in achieving Holland's goal to grow by 800 science and engineering positions during the next five years. To accomplish that and other goals in the future, Holland believes in enhancing the employee experience at the center.

"A new facility for the Geotechnical and Structures Laboratory is next, along with concepts such as bicycle and walking trails, bike sharing stations around campus, coffee bars and nature displays, among other initiatives," McDevitt said.

A key contributor to the installation planning program is Ken Cook, who leads the center's Directorate of Public Works.

"Ken brings just some wonderful and singular qualifications to our efforts," McDevitt said. "In addition to his extensive experience in community planning, he is also an architect, which gives him a unique ability to combine grounds and structures in a complimentary fashion. His contributions will aid greatly in achieving Dr. Holland's concept of

transforming ERDC into a campus that matches favorably with academic institutions across the nation."

The center maintains an installation planning board chaired by Holland and comprised of the center's seven laboratory directors. Advising the board is an installation planning committee, which includes McDevitt and Cook, the center's Board of Deputy Directors, public works directorate staff and lab facility managers. The committee gathers information on a variety of long-term needs from multiple sources including branch managers, technical directors, researchers, engineers and support staff. The committee briefs the installation planning board quarterly and the information is reviewed in light of future goals. The board then weighs recommendations and makes decisions to move the planning process forward.

"ERDC has four sites total, and installation planning is an element for all of them. Vicksburg is the main focus. At about 700 acres, it is the largest with the most struc-

*(See ERDC, page 13)*



*Aerial photograph of the construction site for the new headquarters building at the U.S. Army Engineer Research and Development Center in Vicksburg, Mississippi. Construction of the 142,000 square foot building with a four-story southern wing and a three-story northern wing is set for completion in 2017.*

*(Photo by Kerry Larsen)*



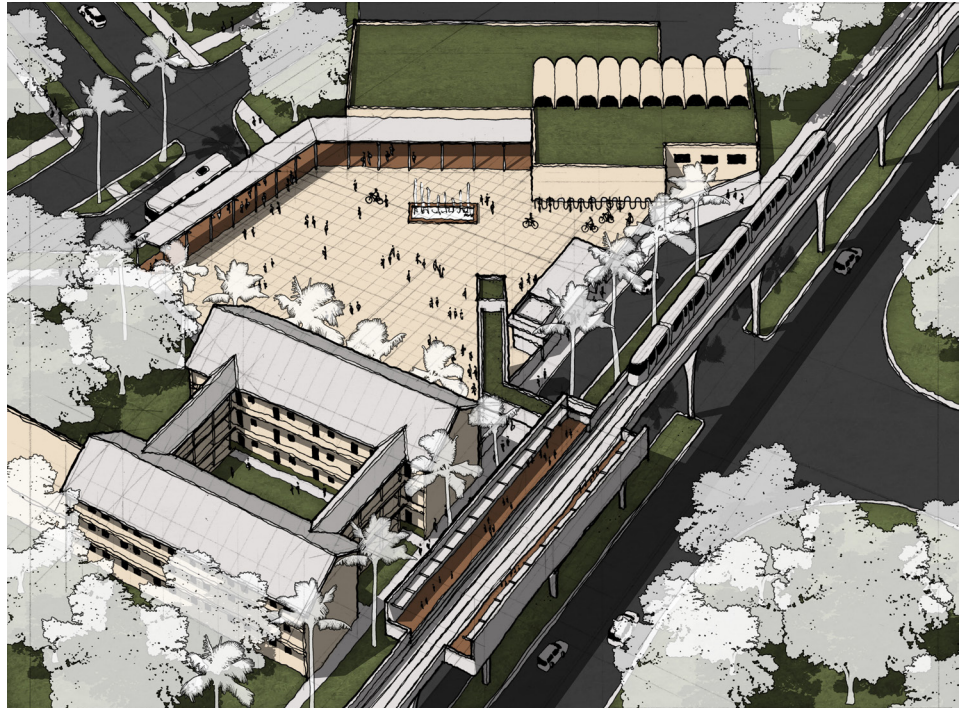
# Master planning helps installations follow executive order

by Jerry Zekert and Mark Gillem

The White House's publication of Executive Order 13693 Planning for Federal Sustainability in the Next Decade has identified another significant outcome to achieve real cost savings associated with energy and water reductions. Planners and the plans they create can go a long way in helping military installations meet the order's mandates, which can result in lower operating costs, increased resiliency, and enhanced environmental performance.

While the executive order covers numerous aspects of sustainability, the ones on which planning can have a significant impact relate to energy reduction and recovery, building performance, water reduction, waste minimization, and transit accessibility. The key is to have an actual plan that embeds sustainability strategies throughout all development that translates into projects.

The best scale to do this is by dividing the installation into areas or districts and then creating an Area Development Plan. Once this plan is in place for a district, a follow-on Sustainability Component Plan can be created. In the process of preparing an SCP, installation staff members work together to establish measurable goals in four environmental categories: energy, water, waste, and stormwater. These goals may simply mirror the executive order or they may be more aggressive and call for net zero or net positive in some areas. At a minimum, the goals should reflect the



The planned transit node at Joint Base Pearl Harbor-Hickam integrates planning principles that will help the installation meet Executive Order 13693 goals for energy reduction (through energy efficient construction and renovation), water reduction (through xeriscaping and appropriate permeable paving), and access to transit on and off the installation. (Image courtesy of The Urban Collaborative)

following guidance from Executive Order 13623:

**Solid Waste.** The target is to divert 50 percent of non-hazardous solid waste, to include compostable material, and 50 percent of construction debris from landfills. Many locations only divert about 30 percent, so there is room for improvement.

**Energy.** For energy, the order calls for a 2.5 percent annual reduction for 10 years based on a fiscal year 2015 baseline. So by 2025, installations need to achieve a 25 percent reduction from today's use. It also sets a "clean energy" target of 25 percent by fiscal year 2025, which includes non-electric and alternative

(See Executive Order, page 14)

(ERDC, continued from page 12)

tures. Infrastructure is relatively easy, such as increased water requirements for an updated sprinkler system. But projecting needs for the future is a significant challenge," Cook said.

"For me the really interesting and challenging part is that ERDC is the only Corps of Engineers element with a Directorate of Public Works," he said. "I guess that makes me kind of the last of a breed, but the unique challenges of

supporting a multi-acre, multi-building campus is really special. With an innovative focus, I think we are going to create something quite special."

The U.S. Army Engineer Research and Development Center is one of the most diverse research organizations in the world, with more than 2,100 employees, more than \$1 billion in world class facilities and an annual program exceeding \$1 billion. The U.S. Army Engineer Research and Development Center supports the

Department of Defense and other agencies in military and civilian projects. Principal research mission areas include Soldier support, military installations, environment, water resources and information technology.

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*(Executive Order, continued from page 13)*

energy and a renewable energy target that calls for 30 percent of energy use coming from renewable electricity by fiscal year 2025. Since many installations already benefit from “picking the low-hanging fruit,” meeting these targets will become increasingly challenging.

**Water.** The executive order calls for a 2 percent annual reduction from a 2007 baseline in order to achieve a 30 percent overall reduction by fiscal year 25. This may be one of the most challenging targets and could require the use of greywater harvesting, rainwater catchment, and investing in purple pipes to carry recycled water through a building.

**Buildings.** Starting in fiscal year 2020, all new construction of federal buildings greater than 5,000 square feet that enters the planning process will be designed to achieve net-zero energy and, where feasible, water or waste net-zero by fiscal year 2030. The “where feasible” language gives installations an out for water and waste but the energy mandate is not optional. This requires a fundamental rethink of how we will design buildings.

Once these framing goals are in place, planners can forecast reduction and recovery metrics using a baseline and then projecting to a base case, better case, and best case in terms of reduction and recovery for each category. The base case uses the installation’s current

baseline use intensities for energy and water consumption as well as waste and stormwater generation and multiplies the use intensity by the applicable area or per capita factors. For example, if current administrative buildings generate five pounds of municipal solid waste per 1,000 square feet, that factor can be applied to all proposed administrative building area to

Hawaii; Fort Hunter Liggett, California; the Presidio of Monterey, California; Parks Reserve Forces Training Area, California; and National Aeronautics and Space Administration’s Lyndon B. Johnson Space Center, Texas. These plans show actual projects needed to meet the framing goals and those projects are in sync with the Area Development Plan.

## The “where feasible” language gives installations an out for water and waste but the energy mandate is not optional. This requires a fundamental rethink of how we will design buildings.

get to a total waste generation in the short term and long term. Then, using tested recycling methods, which represent a better case, buildings may only generate three and one-half pounds of waste per 1,000 square feet. A more aggressive approach would add composting and that may get the intensity down to two and one-half pounds per 1,000 square feet. This would represent the best case. A similar process that starts with a baseline, then forecasts base, better, and best cases using various efficiency measures also works for energy, water, and stormwater. Multiplying these intensities by the total area in each planning phase results in a forecasted total for each category (waste, energy, water, and stormwater).

The U.S. Army Corps of Engineers has developed a state of the art modeling tool that helps plans use computer modeling to forecast energy, water and waste use over time. The Net Zero Planner tool helps installations do the actual forecast modeling. The tool also looks at the lifecycle cost of various efficiency measures and helps identify the most cost effective measures to meet the framing goals. Using the tool has helped planners create Sustainability Component Plans for Fort Hood, Texas; U.S. Army Garrison

**Access to Transit.** The executive order also requires that as agencies plan for new buildings or leases, access to public transit is a desirable strategy. It encourages the development of policies that promote sustainable commuting. Taken together, this means that plans should focus on transit-oriented developments, which means that we locate more intense development around transit stops and along transit lines.

By setting the overarching goals, the administration has established the benchmarks for the military to follow. Using these complementary planning product and services, installations can define the best plan to achieve these goals integrated with their base planning practices.

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# Area Development Plan brings East Bragg District future into focus

by Kevin Cooper

The U.S. Army is responsible for managing millions of acres of land and billions of dollars in plant replacement value of facilities and infrastructure on its installations worldwide. This requires thoughtful and thorough planning through use of the Real Property Master Plan, which results from a comprehensive and collaborative process outlined in the Unified Facilities Criteria 2-100-1, Installation Master Planning.

During a 2014 Vision Plan Practicum, a Real Property Master Plan Vision Framework Plan divided Fort Bragg, North Carolina, into 16 identifiable and connected districts based on geographical features, land-use patterns, building types, and/or transportation networks. Dividing the installation into smaller, more manageable districts allows for the identification of the needs and requirements resulting from the mission, requirements, and command priorities

One aspect of the plan is the Long Range Component, comprised of multiple Area Development Plans, one for each of the districts identified in the Vision Plan. Developing such a plan requires an iterative and collaborative planning process that includes the following components:

- Analysis of the Real Property Vision, Goals and Objectives
- Analysis of Existing Conditions
- Analysis of Planning Standards
- Development and Evaluation of Alternatives
- Fully Developed Preferred Alternatives
- Preparation of the Regulating Plan/Form Based Code
- Illustrative Plan
- Implementation Plan

The East Bragg Area Development Plan, developed during meetings June 8-11, is a critical component of the consolidated Fort Bragg Real Property Master Plan, designed to assist in preparing a Long-Range Development Plan for East Bragg District that will govern the district's future

development during the next 20 years. The area development plan identifies capacity for future development and provides a plan for effective and sustainable implementation of the Vision Plan. It illustrates how compact and flexible development can occur within this area by maximizing capacity while improving mission preparedness and overall quality of life.

Participants from East Bragg District garrison and military units worked collaboratively to analyze the existing conditions, created concept maps documenting stakeholder preferences, crafted a district Real Property Vision Statement, and developed long-range alternatives.

Practicum participants worked in three groups to develop alternative plans for the future development using guidance provided by planning team members. Each group developed an alternative district plan based on a standard set of criteria and to encourage diversity and creativity between the alternatives. The best ideas and the common themes were refined and combined into a preferred alternative development plan for the district.

The design elements in the preferred alternative plan included:

- Ending public access to Bragg Boulevard; which separates East Bragg from Main Bragg.
- Introduction of a new roadway into the transportation network enhancing the beaux-arts layout of East Bragg.

The district's Regulating Plan is the controlling document and principal tool for implementing the district's Form Based Code identifying: Building Area Boundary; minimum/maximum building height; required build-to-line; entry zone; parking zone; and building envelope standards, all in keeping with the iconic beaux-art planning concept that is emphasized in the East Bragg District.




*Collaboration during a four-day practicum was a key factor in the development of the East Bragg Area Development Plan for Fort Bragg, North Carolina. (U.S. Army Photo)*

All new projects will be developed in alignment with the Regulating Plan and building envelope standards.

As the Army's needs grow and adapt to the changing political and fiscal climate, a flexible plan that allows the installation to achieve its vision is required. The Capacity Plan shows how much capacity the East Bragg District can sustain if Fort Bragg were to expand under a potential Base Realignment and Closure Act directive. The capacity projects would redevelop most of the buildings to accommodate an additional brigade. Select existing facilities would be demolished to allow for a new headquarters buildings to be constructed along with the construction of company operations facilities along with new barracks, all keeping with the iconic beaux-arts layout of the installation. It is the stakeholders' desire to preserve this unique aesthetic as development moves forward. The preferred alternative plan also identifies World War II buildings to be demolished to make way for the district's new footprint.

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# Challenges, solutions face master planners in contingency environments

by John Moreno and Bill Workman

Imagine developing a comprehensive master plan involving facilities for national security, yet being restricted in visiting the planning site (or not being able to visit it all), having difficulty in understanding the culture and language, and not being given any technical information on the infrastructure and surrounding facilities.

In May, that task was assigned to the U.S. Army Corps of Engineers – TransAtlantic-Afghanistan District. The mission was to develop a comprehensive master plan for 14 Afghanistan locations that focused on designing and building facilities for female members of the Afghan National Defense and Security Forces.

Afghan officials and politicians understand the need to recruit and train more women to serve in the Afghan National Army and Afghan National Police forces, which play a key role in securing national defense. Both the NATO Resolute Support mission and the supporting United States mission in Afghanistan are providing direct support to this host-nation effort. The gender program is managed by Combined Security Transition Command Afghanistan, which is modifying existing Afghan National Army and Afghan National Police facilities to support new gender facilities for females.

A master plan program was authorized in fiscal year 2015 that led to a fiscal year 2016 design and construction program valued at about \$100 million. A team of three master planners deployed to Afghanistan from the Corps of Engineers Savannah District to prepare the multiple master plans needed for such an ambitious project.

One of the first hurdles the team faced was understanding the country's overall program needs and the uniqueness of performing this task in an austere contingency environment.

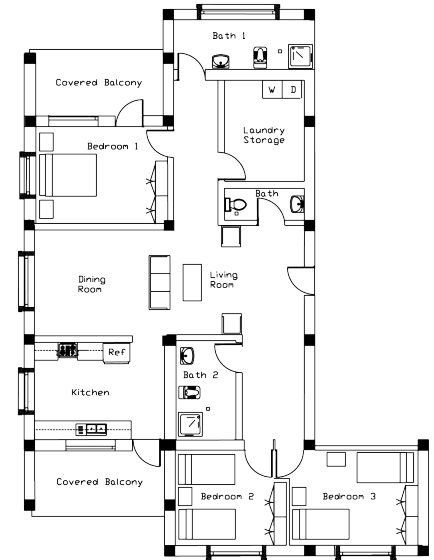
Some of the significant challenges in developing this plan involved various security issues at each site, the inability for

public input, and a cultural gender bias, all of which created considerable difficulties in achieving a final solution. Countless hours were spent working with all participants to develop a final solution with the United States, NATO and host nation members.

Probably the most significant challenge in the program's execution process was the difficulty of visiting the site locations due to security reasons. Many sites were not safe for coalition forces to visit and to conduct field assessments of the existing infrastructure conditions. Therefore, it was necessary to rely on the use of a host-nation service contract that provided technical teams comprised of engineers who directly performed field engineering work and prepared technical reports describing the existing conditions. The reports' results proved to be a vital part of the final solution, but the lack of available high technical equipment limited the field investigations to visual findings.

Engineering assumptions were required in developing a plan at each site location due to the lack of available data. Typical real estate and engineering assumptions/challenges included:

- Lack of property and real estate records to define boundaries and setback requirements.
- No formal building permitting approval process for design and construction.
- Insufficient hydrological and mapping data required assumptions to be made regarding project site(s) did not impose and environmental issues, such as threats to endangered plant or animal species, cultural resources and/or located in a wetlands area or flood plain area.
- Capacity of electrical power for the site and existing equipment required assumptions on how to manage electrical needs.
- The locations, quantity, and quality of water at the various sites.
- Availability and capacity of sanitary sewer and waste collection.
- Data showing whether the area was




*Illustration of a three-bedroom family housing unit planned for a Police Town in Afghanistan, an endeavor that poses special challenges for Army planners in a contingency environment. (Courtesy Photo)*

cleared for unexploded ordnance at the project site.

- Loosely defined building code requirements allow for wide interpolations. These factors, along with balancing different cultural ideas against viable economic solutions, created a very unique execution challenge.

A master planning solution was generated for all 14 gender sites after about six months. The goal of this Master Planning project solution, and the follow-on design/construction projects, is to provide appropriate gender facilities for the Afghan security forces, setting a foundation for ensuring long-term sustainability.

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# Huntsville Center planners have full-spectrum worldwide focus

by Julia Bobick

The U.S. Army Engineering and Support Center, Huntsville's planning and programming team has a wealth of subject matter experts with a broad range of experiences, tools and resources to help agencies worldwide manage their real property portfolios.

"Because of the unique nature of Huntsville Center – with a worldwide area of operations – we deal with planning in countries all over the world," said Wesley Bushnell, a military construction economist with more than seven years of experience on Huntsville Center's planning and programming team.

A certified planner with 20 years of city planning experience and one of Huntsville Center's newest team members, Daniel Reed served as the planning director for the city of Daytona Beach, Florida, before embarking on a planning career with the military. In Naples, Italy, where he was assigned before coming to Alabama, Reed worked as a NATO planner representing Navy infrastructure requirements. He has also worked as a planner for the State Department in Iraq, Nigeria and Djibouti, and then with the Marine Corps in Japan.

The standards are used when it comes to military construction, Reed said. Planners must interpret each site through the lens of the headquarters regulations – meeting sustainability, environmental stewardship and security goals – while trying to make the most efficient and effective use of the allotted space to meet the needs of the organization.

"Customers come to us because they have a requirement to get a mission done – whatever it might be," said Sally Parsons, chief of the Huntsville Center's Planning and Programming Branch in the Installation Support and Programs Management Directorate Military Integration Division. "They want us to help them lay out where it should be located on the installation, how much space it will require and what should be in that space. In a nutshell, 'I have a need,



*This drawing of Hawaii's Schofield Barracks Town Center Area Development Plan, done by the contractor HB&A, demonstrates how the proposed parking structure would match the historic decor of the nearby quads. The Town Center Area Development Plan project, which won an American Planning Association Award, was managed by the U.S. Army Engineering and Support Center, Huntsville, Planning and Programming Branch. (Image Courtesy of HB&A)*

help me get a facility or space to meet that need.' We help them develop the funding documents that go to Congress so it can eventually be approved and funded as a project."

Parsons said her team executes studies that provide the planning foundation for facility requirements, taking into consideration mission and operational requirements and current and required real property assets; analyzing development opportunities and constraints; defining alternatives and applying planning standards and criteria. Team products include:

- Master plans
- Area development plans
- Vision plans
- Sustainability and energy plans
- Transportation plans
- Form based coding
- Defensible planning to reduce risk to mission-critical assets

• Environmental/natural resources plans  
Primary customers include the Office of the Assistant Chief of Staff for Installation Management, Army Reserve Installation Management Directorate, Installation Management Command, Army Sustainment Command, U.S. Army Network Enterprise Technology Command and the U.S. Army Reserve. This past year for the Office of the Assistant Chief of Staff for Installation Management alone, projects ranged from maintenance complexes and stockyards to central issue facilities and line haul ammunition supply storage.

The planning focus in many locations – both within the United States and overseas where buildable land space is limited – has transitioned more toward walkability, compatible mixed use spaces and building up not out. "You learn how to think about maximizing the available space," Reed said.

(See Full Spectrum, page 18)



# Transforming Fort Campbell one plan at a time

by Michael Malham

Installation planning has to be a continually evolving process. Fort Campbell, Kentucky, has integrated inspiration, creativity, and common sense to take planning from a project driven to an effective city planning approach requiring half the time.

Previous guidance encouraged a vision encapsulating everything a garrison wanted to be when it grew up in 20 years, which included a big focus on sustainability. Behind this vision was a long list of wishes that would have resulted in planning and programming success. When faced with fiscal reality, however, achieving this vision became impractical.

Regardless of the horizon, planners work within a finite context and parameters. As funding changed, the strict application of the Facility Investment Strategy became a critical consideration. Evolving parameters now feature a district-level approach grounded in creativity and effectiveness resulting in a plan that can be implemented.

Fort Campbell is well on its way to completing its third practical area development plan compliant with the new Unified Facilities Criteria on Installation

Master Planning. The facilitated process has changed with each iteration.

The Screaming Eagle Area Development Plan set the stage for the majority of the 101st Airborne Division mission and administrative areas. Road and building assessments, and some blank stares, initially consumed valuable time rather than effective and productive planning. The professional team from Michael Baker International and Fort Campbell's master planning staff adjusted the week-long charrette and tailored the schedule so brigade representatives could buy into the process and drive the plan's development while still maintaining the structure defined in the criteria.

Prior to the professional planning team arriving to facilitate a charrette for the Town Center Area Development Plan, the master planning staff evaluated each roadway segment and building, conducted a rights and blights survey through Facebook, and organized a district walking tour. These efforts allowed functional experts and people working in the area to focus on future growth scenarios and establish regulations guiding future development. Because great places are remembered for their downtown



*A team of individuals from across Fort Campbell, Kentucky, participated in a charrette to develop an alternative for the Town Center Area Development Plan. (Photo by Michael Baker International Staff)*

or neighborhood districts, the Town Center plan had to clearly represent Fort Campbell's desired "personality" and result in a place where Soldiers and Families would want to return.

In October, the area development plan charrette for the Cole Park District built on the efficiencies achieved during the Town Center plan development and focused on maximizing the participants' creative output while minimizing the impact to their daily schedules. Many charrette participants are challenged by committing

*(See One Plan, page 19)*

*(Full Spectrum, continued from page 17)*


Team capabilities include facility requirements analyses, economic analyses, whole installation and area development plans, planning charrettes, centralized military construction planning, installation planning standards and vision plans. Many Huntsville team members have high-level security clearances that enable them to provide planning support in a broad range of environments. Parsons added that Bushnell's experience performing economic analyses for military construction is another capability that sets Huntsville Center apart.

Four Huntsville Center projects recently received awards from the American Planning Association Federal Planning Division: an area development plan for Guam, Saipan and American Samoa; an area development plan for Schofield Town Center in Hawaii; a real property master plan for Fort Hamilton, New York; and the Logistics Readiness Center Project Definition and Validation Plan. The first initiative of its kind, the project definition and validation plan served to catalogue specific data related to building deficiencies and property improvements, then prioritize work on Directorate of Logistics facilities at 48 installations worldwide.

"We are trying to cover the full-

spectrum of possible needs and planning environments to respond to the individual needs of each organization, and we have to be able and prepared to fulfill planning needs anywhere in the world," Bushnell said.

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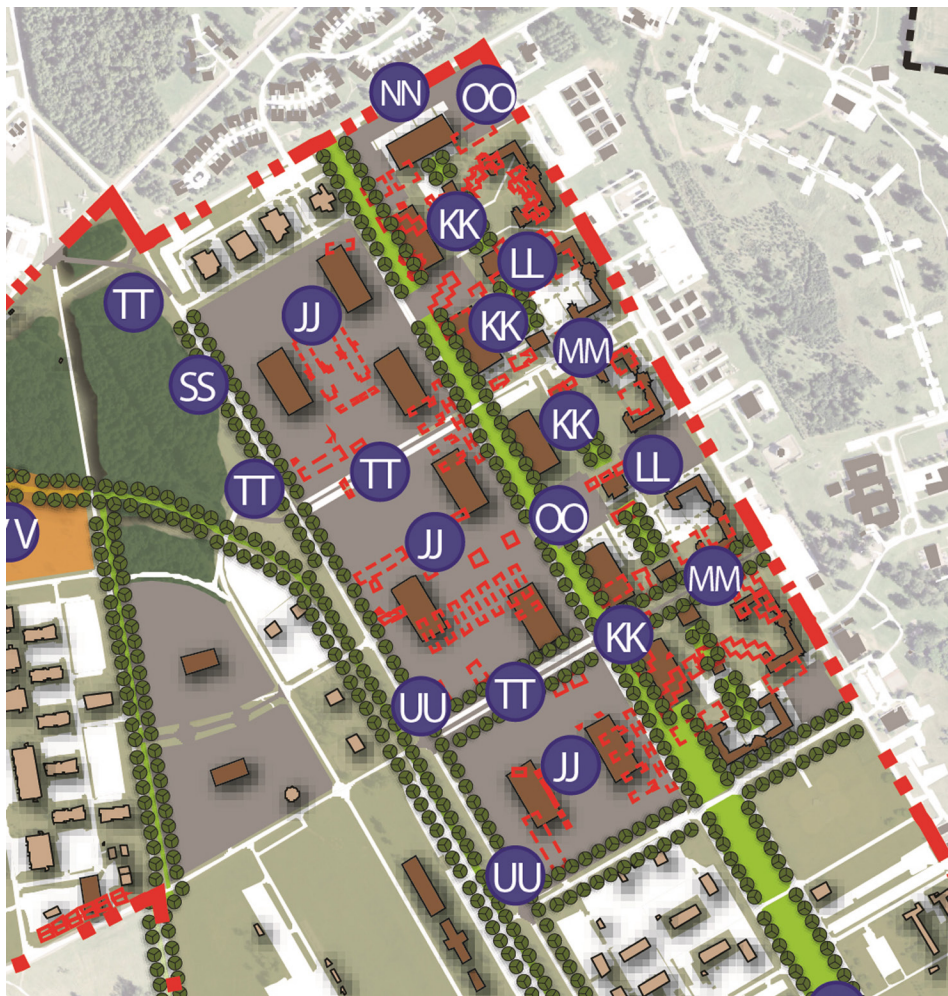


(One Plan, continued from page 18)

a full week to tasks that do not show up in his or her performance evaluation. To minimize any disruptions and still maintain a high level of participation, the schedule was reduced to half-days for the main group and full-days for dedicated planning and programming staff. This schedule allowed stakeholders to better manage their time, guide each component, and weigh in at critical decision points.

These area plans and future plans will guide Fort Campbell development in three significant ways: siting evaluations, capital investment strategy development, and assessing the strategy to reduce the installation footprint. First, all proposed project sitings will be evaluated against the illustrative plan that shows the approved long-term development scenario. These sitings will be assessed to ensure conformity to the regulating plan for appropriate land use, building massing, and frontage requirements.

Second, consistency with the respective area development plan is now a component



Part of the approved Screaming Eagle Area Development Plan Illustrative Plan showing an alternative for an Infantry Brigade Combat Team at Fort Campbell, Kentucky. (Image courtesy of Michael Baker International Staff)

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of the local scoring model for unspecified minor and major military construction projects. When combined with the Army Facility Investment Strategy, program focus areas, and risks to missions, this metric is used to develop the initial military construction program prior to being briefed to senior leadership. Additional projects are generated from the illustrative plan based on verified need.

Finally, these area development plans are serve as guideposts to reinforce or re-examine Fort Campbell's strategy to reduce its footprint based on the future

capacity plans and the adopted illustrative plans. Making the decision to demolish, repurpose, or repair facilities ties into the long-term strategy to get to where Fort Campbell needs to be in 20 years.

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# U.S. Army Garrison Hawaii: What's happened so far, what's next?

by Mark Mitsunaga

**S**CHOFIELD BARRACKS, Hawaii – The newly updated Master Plans for U.S. Army Garrison, Hawaii propose radical changes in some areas. This includes incorporating mixed-used facilities in concert with orienting facilities based on good land use principles to support mission efficiency and operability on the garrison.

A comprehensive Master Plan has not been done for nearly 30 years.

We proceeded in earnest to create and update the Master Plans in late 2012. We were fortunate that leadership was and continues to be supportive, an essential element. Among the first steps were pursuing funding and soliciting and executing contracts. They were followed by

an onslaught of work involving reviewing documents, setting up workshops, interviews with stakeholders and maintaining overall project management for all aspects of these contracts.

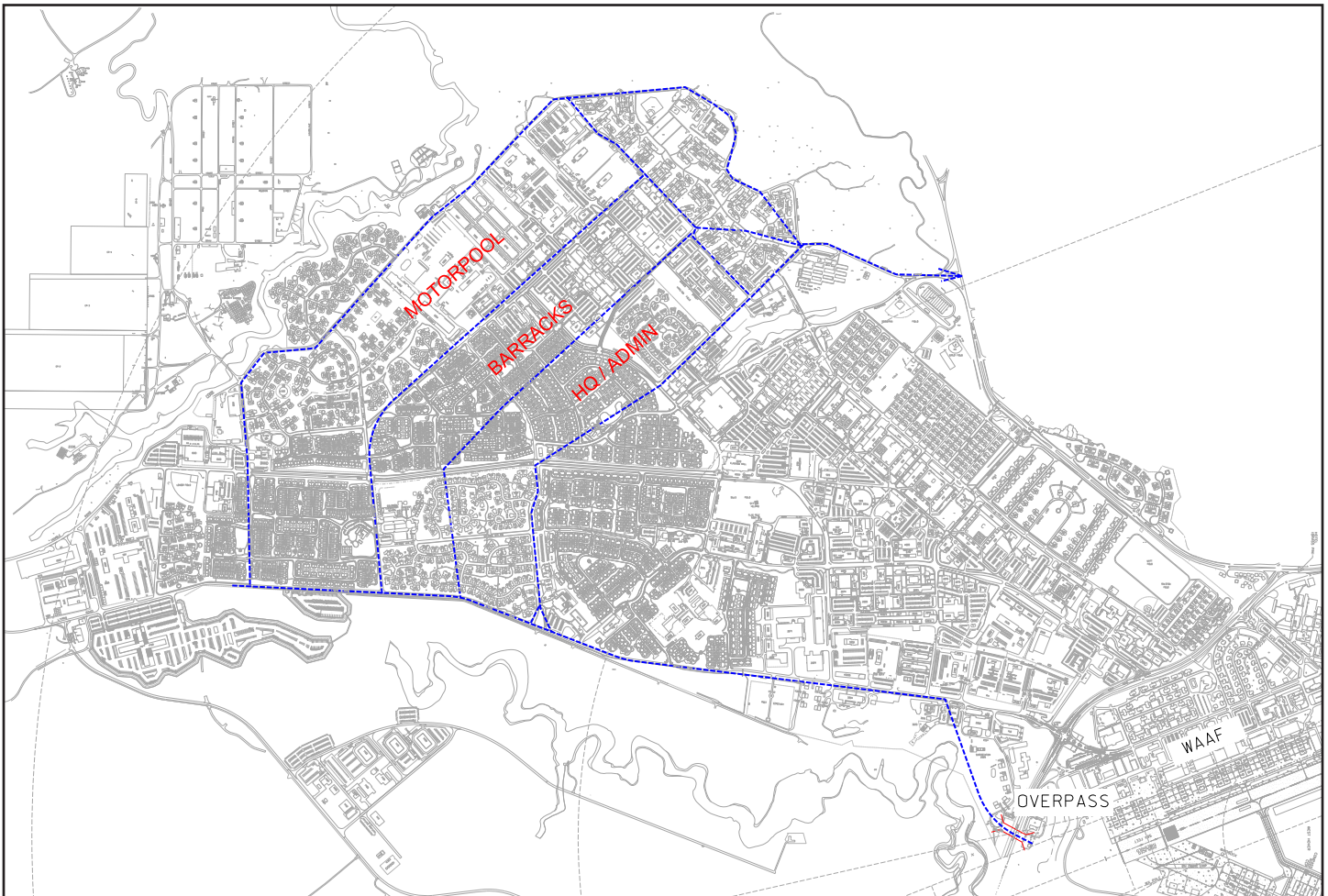
Here is what transpired during the next two years:

- Year One - FY14 Contract – 13 Area Developments Plans and one Sustainability Component Plan; Cost \$1.3 million.
  - Began December 2013; Completion date Sept. 31, 2014 (Approximately nine months).
  - SCP integrated into the Master Plan for Schofield Barracks – First of its kind in the Army.

◦ Installation Development Plan and Digest.

- Year Two - FY15 Contract – four ADPs, nine SCPs and seven Transportation Plans; Cost \$1.6 million.
  - Began October 2014; Completion date Sept. 31, 2015.
  - Updated IDP and Digest.
- 2014 Planning Award, Outstanding Sustainable Planning, Design or Development Initiative, American Planning Association. (Our appreciation to the U.S. Army Corps of Engineers Fort Worth District Corps of Engineers and The Urban Collaborative for sharing our accomplishments, resulting in

(See USAG Hawaii, page 21)



Schofield Barracks, Hawaii, initial concept (U.S. Army Image)



(USAG Hawaii, continued from page 20)

recognition.)

- 2015 National Environmental Excellence Award for Planning Integration, First Place, National Association of Environmental Professionals. (Our appreciation to Fort Worth District and The Urban Collaborative for sharing our accomplishments, resulting in recognition.)

An efficient mission-focused installation will orient the rest of the installation's functions and activities. Because the garrison's mission facilities and family housing are presently intertwined in an unacceptable land use conflict, we proposed a complete overhaul of the main

sub-installation land use into mission (maintenance/company operations facilities, barracks and headquarters buildings) and non-mission areas. (Diagram 1)

This updated plan will help re-establish order in our garrison's land use, reduce crisscross traffic, creating congestion, while enhancing quality of life. (Diagram 2)

Two simultaneous actions occur after the plans and documents are complete.

1. Make it happen!! Only three words, but this is really tough, because the work never ends in bringing a plan to life while changing paradigms.

- Get the word out, consistently and constantly. Work with all stakeholders

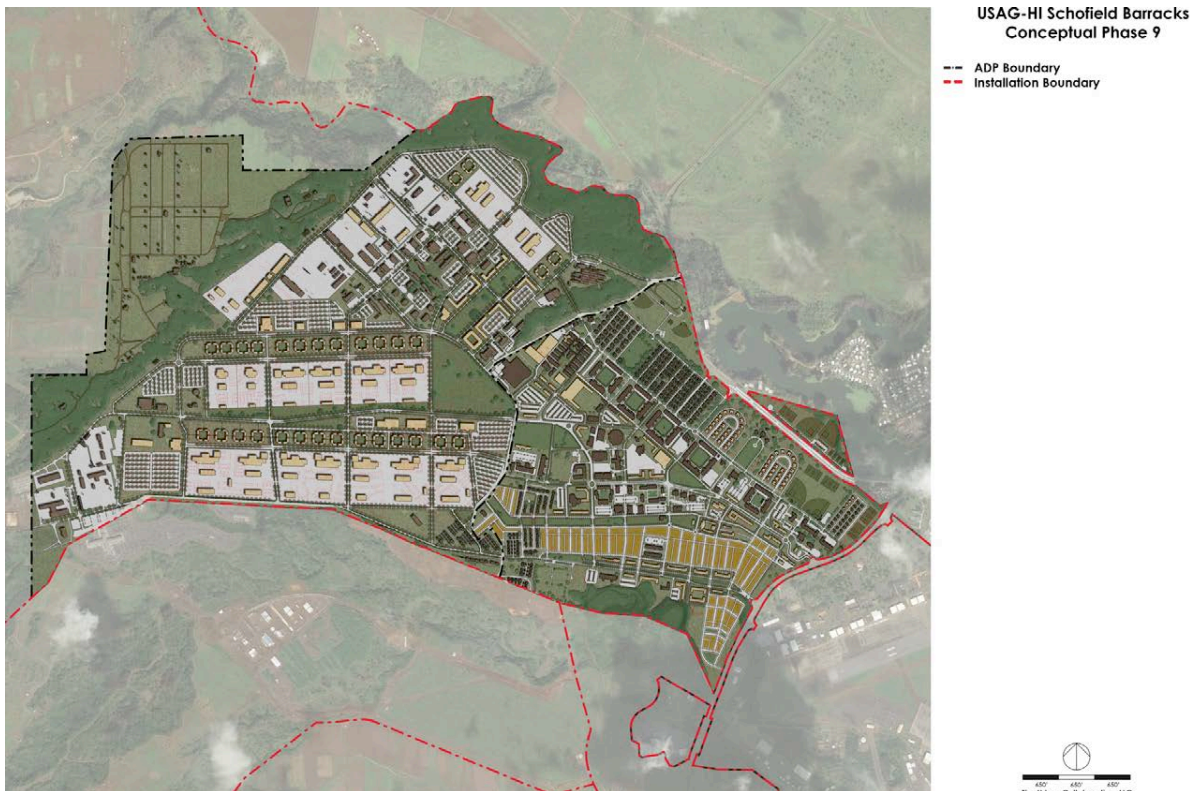
and use Public Affairs resources and the Real Property Planning Board as much as possible and at every opportunity. This also organizes and focuses various garrison funding sources in an organized and timely fashion. Keep communication lines open.

- Create "sales packages" providing the existing and end state illustrations, supported with an organized plan with timeframe, to sell the ideas.
- Ensure that all plans are approved at the highest levels. This helps to preserve the plans from being jostled and changed all the time, with changes of command philosophy.

(See USAG Hawaii, page 22)

## Schofield Barracks - Area Development Plan

### End state concept



Schofield Barracks Area Development Plan, Hawaii, end state concept (U.S. Army Image)



(USAG Hawaii, continued from page 21)

- Keep the Site Approval Process maintained. It keeps the plan on course by reducing conflicts, manages growth and keeps master planners close to the action.
- A Master Plan is an opportunist's best tool. Year-end funds and congressional add-ons go to those who have a plan with projects ready to go.
- Base your work on justified documentation and in accordance with laws, good morale and sound standards. These help your ideas weather the storm of criticisms.
- A Win-Win strategy is the best way to sell the idea. Everyone wants to know "What's in it for me?" If they are expected to chip in resources (man-hours and monies), they will want more in return than they give. It's business. Help them be a big gainer toward the end state, whether it is a better location or a better view. You figure them out and work with them.
- Contract work is a force multiplier that helps boost the effort. Contractors come for a finite period to provide those deliverables, and then leave. Master planners have to live with implementing, justifying and moving the plan to fruition. Many battles will come from within your own organization. Ask naysayers what they would recommend along with their purpose/reason and associated justification. See where that goes. They may just come up with a good suggestion or nothing at all.
- Master planners should have an idea of what their plans should reflect based on mission, quality of life and mitigation of constraints. We should not totally depend on contractors to create our master plan.
- The real grunt work falls on the base/garrison master planner, who is intimate with the issues, history and way ahead. Lessons learned applied

properly and timely help reduce redundancies and avoid traps. Master planners create flexible alternatives that help maintain forward movement to reach the desired goal. The path to the end state is not a straight shot. It will take zigs and zags, but the key is being persistence in keeping the course.

- Maintain quality and dependable work. It builds a solid reputation, a helpful and rare commodity these days.
  - Become the center of the garrison universe for information and solutions.
  - Computer Aided Design and Drafting/Geospatial Information System is the backbone for information storage that helps maintain the consistent story. It must to be maintained and updated.
2. The next level of planning involved the development of Neighborhood (Residential/Community) or District (Commercial/Industrial) Plans.
- Master Plans are the holistic documents.
    - i. ADPs encompass large subdivided areas of the installation or sub-installation.
    - ii. IDPs/Network Plans show the infrastructure network among the ADPs.
    - iii. Capital Investment Strategy/Area Development Execution Plan – Projects necessary to reach the end state while achieving a balanced Tabulation of Existing and Required Facilities.
  - Neighborhood Plans use a smaller scale of drawings to "zoom-in" to areas for more detailed attention. They usually cover similar and compatible land use, e.g., housing and recreation, or commercial and community support activity. This will help articulate finer points and details of engineering projects, utilities, architectural façade, grading and landscaping, etc.

Acronyms and Abbreviations	
ADPs	Area Development Plans
DPs	District Plans
IDP	Installation Development Plans
NP	Neighborhood Plan
SCP	Sustainability Component Plan

- NPs/DPs focus "closer to home" and are more personal because this is where people live, work and play. These plans make it easier to relate and apply the Installation Design Guide and ADEPs. They also provide a closer view of landscaping and utility systems.

Master planners are multi-disciplined engineers and professionals, not necessarily planners. They are "jacks of all trades." We may not know everything, but we should know who or where to go for information that helps resolve the problem.

The Master Plan is not a one person or one agency effort. It should take all the stakeholders to create and sustain it.

Each garrison office, as well as major tenants, should have a champion represented in the Real Property Planning Board and its working group not only to make sure their interests are upheld and promoted, but also to ensure the garrison's azimuth is running true to its purpose and mission. Without them, the Master Plan may wither and the garrison will again become a rudderless ship – something everyone wants to avoid. Some of these suggestions, thoughts and lessons learned may prove valuable in ensuring that does not happen.

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# Army provides master planners tools to meet guideline, goals

by Kathryn Haught

Three years following approval of the Unified Facilities Criteria 2-100-01 (Installation Master Planning) and two years since the enactment of 10 United States Code 2864 (Major Military Installation Master Planning), Headquarters, Department of the Army Office of the Assistant Chief of Staff for Installation Management seeks to ensure its installations have the tools to update Real Property Master Plans and achieve a steady state of continuous update.

Recently, Sen. Brian Schatz of Hawaii asked Department of Defense officials about the department's status in implementing the statute, wanting to ensure that the department and its services were taking steps to ensure compliance. The Office of the Secretary of Defense briefed the senator on the services' update status, and their challenges in meeting the goals of compact development, mixed use development, life cycle cost analysis, capacity planning, and transportation planning. OSD remains committed to implementation in the spirit of the UFC and the statute, articulating that while the services are on track to meet the October 2018 suspense, funding remains the biggest obstacle to implementing the statutory strategies.

While the Army and the other services have been integrating sustainability, natural and cultural resource planning and defensible planning for several years, compact development, mixed use development, and healthy community planning continues to challenge installation master planners, and will require defense department emphasis to ensure all services meet the UFC intent. It should be noted that both the statute and the UFC direct the services to address life cycle cost analysis, including the opportunity cost of land. As the Army's installation master planners compare Area Development Plan alternatives, they should take into account the cost of development as related to large vs. small installations/sites, the cost of energy and water saving initiatives, as well

as the cost of a growing number of force protection requirements/considerations. Additionally, OSD is reviewing/discussing the importance of UFC metric implementation in relation to ensuring UFC compliance, and the integration of energy and water considerations into a service's master planning process.

Of particular concern to the Army is compliance with the UFC Plan Based Programming strategy as emphasized by defense department policy; specifically that all development on the installation must comply with the RPMP. By 2018, all installations are required to have updated their ADP to include regulating plans used for site approval. Regulating plans should consider of more compact and mixed development, especially related to administrative, housing and retail facilities. Recognizing that programming cannot occur in the absence of an RPMP, OSD has tasked each service to ensure that programming submissions reflect the approved master plan as reviewed by its Installation Planning Board, along with the installation's next higher level of review as determined by Army regulations.

As HQDA continues its annual refinement of the Facility Investment Strategy, it remains the bridge between the installation's approved RPMP and the HQDA approved program objective memorandum submission to OSD. The FIS focus is currently on reducing the Army's Installation Footprint, seeking to reduce the installation's real property assets via the master planning process, and to identify opportunities for repurposing and demolition, especially for installations which expect to experience a net loss of organizations, Soldiers, Families and Civilians as a result of the Army's directed force structure reductions. This downsizing period of the Army provides the perfect opportunity to right-size its mission by consolidating unit footprints while planning for more "walkable and accessible" facilities and services. While the FIS acknowledges that the


Acronyms and Abbreviations	
ADP	Area Development Plan
FIS	Facility Investment Strategy
HQDA	Headquarters, Department of the Army
ISR	Installation Status Report
OSD	Office of the Secretary of Defense
RPRMP	Real Property Master Plan
UFC	Unified Facilities Criteria

Installation Master Plan should drive the Army facility investment process, HQDA seeks to ensure, with its land holding command, that an installation's Master Plans are integrated properly into the process at all levels of decision, both within the installation and across all Army installations, regardless of component.

HQDA has integrated OSD's developed metrics of completeness, timeliness, training, and compliance with planning processes, within its installation status report and will look to refinement for measurement of "compliance with UFC." Army also seeks to implement capacity planning by incorporating into the ISR Mission Capability module. The primary parameters to be considered are developable land, developable square footage (as determined in the regulating plan), utility capacity, and other land use considerations that impact planning.

HQDA is dependent upon the real property master planner to assist in ensuring the policy helps Army meet our OSD and statutory goals. Feedback is welcome on challenges and suggestions for meeting the 10 strategies as outlined by the UFC 2-100-01.

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# Army Corps of Engineers jumpstarts lakes master planning

by Jim Frisinger

Master plan revisions at many U.S. Army Corps of Engineers Corps lakes have gotten a push thanks to a headquarters initiative that has jumpstarted the process.

Some Project Master Plans hadn't been touched since the lakes were impounded back in the 1950s, '60s and '70s, said Eric Irwin, a program manager for the Fort Worth District's Regional Planning and Environmental Center. Some make no mention of the Clean Water Act, the Endangered Species Act or other laws protecting cultural resources.

Irwin said Band-Aids were put on master plans by writing "supplements," which fix a single park issue or land classification, rather than, a total rewrite.

"Corps-wide, this is not the way to do master planning," he said. "We needed to improve and update them."

There was a good reason for the lack of cover-to-cover revisions, said Don Wiese, a Regional Planning and Environmental Center natural resources manager.

Revisions once took several years and cost more than a million dollars per lake. All of that funding had to come from the local lake operations budget, thus few of the more than 400 master plans nationwide were revised in a timely fashion. He said a 2007 report from the Army Inspector General described the master planning process as "dysfunctional."

Wiese joined an Army Corps of Engineers Headquarters team tasked with developing a new process that was measurable, practical and identified efficiencies. This would speed the process, reduce the cost and make revising lake master plans routine. The team's recommendations were implemented in the Engineering Regulation and Engineering Pamphlet 1130-2-550 in January 2013.

The regional center began revising these lake master plans a year ago for three states in its area of operations: Texas, Oklahoma and Kansas.

An Army Corps of Engineers Project Master Plan is a strategic land-use management document to guide the comprehensive management and development of recreation, natural resources and cultural resources for each Corps lakes project. It does not address primary project purposes such as flood risk management or hydroelectric power generation but is similar to what other federal agencies call a Land and Resource Management Plan.

The new guidance supports increased collaboration through greater involvement of operations staff in a process that is no longer dominated by planners. Operations Division personnel in each Corps of Engineers district decide when and what master plans will be revised. Wherever possible the process leverages operations staff to organize public meetings, rewrite text and create maps.

The recreation the public wants has changed during the past two generations, said Robert Morrow, a former park ranger now guiding the rewrites as a natural resource specialist for the regional center. At some remote lakes, demand for high-intensity uses such as parks in the original master plans never materialized.

In 40 years, the ecosystem at each project also has changed. Many lake lands have undergone natural vegetative succession resulting in older trees and establishment of native prairie grasses – overall, much better wildlife habitat, Wiese said. New Geographic Information Systems technology helps master planners better document new lands created by sedimentation at the upper end of many lakes. Now inaccessible for recreation, the lands are being reclassified to more appropriate categories such as fish and wildlife management.

Revised and fully vetted master plans make future decisions by lake managers more defensible when they face new land use proposals, he said. They also provide management consistency across the Corps



The islands in blue are classified "environmentally sensitive" because of nesting habitat sites built in the last decade for the endangered interior least tern. (Photo by Jim Frisinger)

of Engineers.

Morrow said the new Project Master Plans are better linked to the annually updated Operational Management Plans at each lake. Near-term actions taken by operations personnel described in the Operational Management Plans can better adhere to long-term land management goals in the Project Master Plan. The master plans have a 25-year outlook, but must now be revisited every five years to see if a supplement or a revision is required.

The rewrite also empowers lake managers to pursue their environmental stewardship goals by designating especially important areas as "environmentally sensitive areas" and not just as "natural areas," Morrow said. A beautiful thicket of trees that developed on a spit of land visible from the Sam Rayburn Dam in Texas will be protected this way as it is home to nesting bald eagles.

"It is in the middle of a 'high-density recreation' area, but we wouldn't want anyone to build campsites there," he said.

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# Atypical military installation planning requires creative approach

by Joseph Zumwald and Anne de la Sierra

**M**ost military installations have similar master planning requirements, which are based on the mission and population of the military personnel assigned to that location.

Planning for atypical installations, whose having unique missions and varying manning strengths as well as a diverse mix of contractor, civilian and military population, requires a more creative approach.

“Typical requirements analyses don’t work on the more non-traditional installations,” said David Rickard, senior vice president and military program director for Woolpert, Inc., a national architecture, engineering and geospatial firm. “No two solutions are the same. The Army has standard designs for multiple facility types such as barracks, commissaries, fire stations, BOFs (battalion operations facilities), COFs (company operations facilities), TEMFs (technical equipment maintenance facilities), etc., but when planning for these atypical installations, there is no standard blueprint.”

Woolpert has provided planning for multiple atypical installations, including Sierra Army Depot, California; the U.S. Army Yuma Proving Ground, Arizona; the U.S. Army Garrison Fort A.P. Hill, Virginia; and the U.S. Army Garrison Rock Island Arsenal, Illinois.

The focus of these types of garrisons vary from that of the traditional military installation. Their services include research, technology, development and evaluation; production and assembly warehouses; storage and maintenance; testing; live fire and tactical training; and maneuvers.

Rock Island, established during the Civil War, is one example of an atypical garrison. Weapons are crafted at the Illinois site, but it also provides for administrative space such as an office complex.

Fort A.P. Hill is another example. With only 250 people, of which only two are

active-duty personnel, working at the installation on approximately 76,000 acres, it is definitely a low-density site. This higher percentage of civilian staffing as compared to military personnel is common at atypical installations. Since funding is generally based on the manning strength of military personnel, these discrepancies can result in funding challenges at these sites.

Assessing and addressing these discrepancies, as well as the specific mission and longevity of each installation, is crucial to the impact and effectiveness of the Real Property Master Plan.

Consideration must be given to what can be accomplished with the real property, whether there is a desire to make room for a more expansive use of the site or if there is a need to protect an aspect of that garrison from change.

However, regardless of an installation’s mission and purpose, each has to adhere to the same Unified Facilities Criteria for Installation Master Planning. These regulations, developed with typical installations in mind, are not always an easy fit for sites that don’t fit that mold.

For example, these regulations denote that every installation should strive to be a walkable community to promote a healthy community for soldiers and their families. But that’s not always logistically possible. A site such as the Yuma Proving Ground is approximately 840,000 acres in the heat of Arizona. Fort A.P. Hill is filled with trees and wildlife. Rock Island is just 950 acres and located in the middle of the Mississippi River.

The varying needs of these installations have to be addressed based on each site’s purpose. These elements affect facility standardization, vertical mixed use and capacity planning. At Fort A.P. Hill, the large amounts of developable acreage must be preserved for training activities.

Master planners can’t be as prescriptive with the regulations for these installations. Their challenge is to be familiar enough



*U.S. Army Garrison Rock Island Arsenal is one example of an atypical Army garrison. Weapons are crafted at the Illinois site, but it also provides for administrative space such as an office complex. (Photo courtesy of Woolpert)*

with the regulations to productively work within them in creative, non-standard ways.


The bottom line when planning for atypical installations is to ask questions and listen well. “Maintaining and supporting the missions of these sites helps keep them functioning at high levels and ensures their viability,” Rickard said. “This is done by developing a very customized Real Property Master Plan.”

The practice comes back to understanding the people and the military processes and figuring out how they can best work together to benefit all involved.

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# A well-designed picture is worth a thousand words

by Jerry Zekert and Barry Gordon

Imagine that you have to describe your plans for a new barracks complex, quality of life area, or Area Development Plan to the new Garrison Commander or visiting congressional staffer, but you only have 10 seconds to paint the picture. The stamp of approval to move the project forward literally is in your ability to describe the project to someone who may be 1) unfamiliar with your installation; or 2) unable to visualize your intended outcome. Maybe both. Your great plan may be dead in the water.

Now look at another scenario. Same plans, same people, same 10-second time frame, but this time you have a drawing you can give to this person that goes along with your description. Eureka! You have successfully represented your idea visually and verbally.

Being successful requires knowing how to best represent your ideas with the tools that you know and have in your planning arsenal, regardless if the model, rendering, or sketch was produced in-house or accompanied a contractor's planning document. In fact, all Unified Facilities Criteria 2-100-01 master planning documents should be accompanied with supporting sketches and renderings for each district's Area Development Plan.

But what are the best visualization tools to rouse someone else's support? Here are six methods that focus on representing the experiential qualities of pictorial space outlining pros and cons of each, while showing examples that have been used throughout the Department of Defense.



Hand rendering of Joint Base Pearl Harbor-Hickam, Hawaii.  
(Image courtesy of The Urban Collaborative)

## 1. Hand Rendered

### Pros

1. Require minimal time to color and label
2. Computers are not required  
Can be quick and efficient if you are comfortable drawing

### Cons

1. Mistakes are not easily changed
2. Relies on ability of an artist to develop and render in a consistent and legible manner
3. Hard to present electronically unless there is a scanner available

## 2. Geographic Information Systems Rendered

### Pros

1. Plan provides exact siting data
2. Uses a computer program in which most bases have access
3. Most installations have a professional GIS technician

### Cons

1. Requires a great amount of time to draw, color, and export
2. Changing the plan and rendering graphics can be time consuming
3. Requires program knowledge

## 3. AutoCAD Rendered

### Pros

1. Plan provides exact siting data
2. Uses an AutoCAD file that will be developed anyway
3. Most installation have a professional AutoCAD technician

### Cons

1. Requires a great amount of time to draw, color, and export
2. Changing the plan and rendering graphics can be time consuming
3. Requires program knowledge

Acronyms and Abbreviations	
CAD	Computer Aided Design
GIS	Geographic Information System

(See Picture, page 27)



(Picture, continued from page 26)

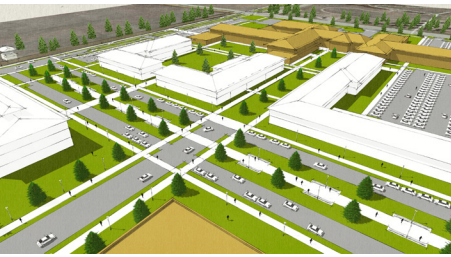
#### 4. Photoshop Rendered

Pros

1. Changes to the plan can be made with minimal time and effort
2. Easy to create and manipulate color, visibility, and special effects
3. Easy to label

Cons

1. Requires a moderate amount of time to import from AutoCAD prior to rendering
2. Required program may not be readily accessible



SketchUp – Ellsworth Air Force Base Training Campus, South Dakota. (Image courtesy of The Urban Collaborative)

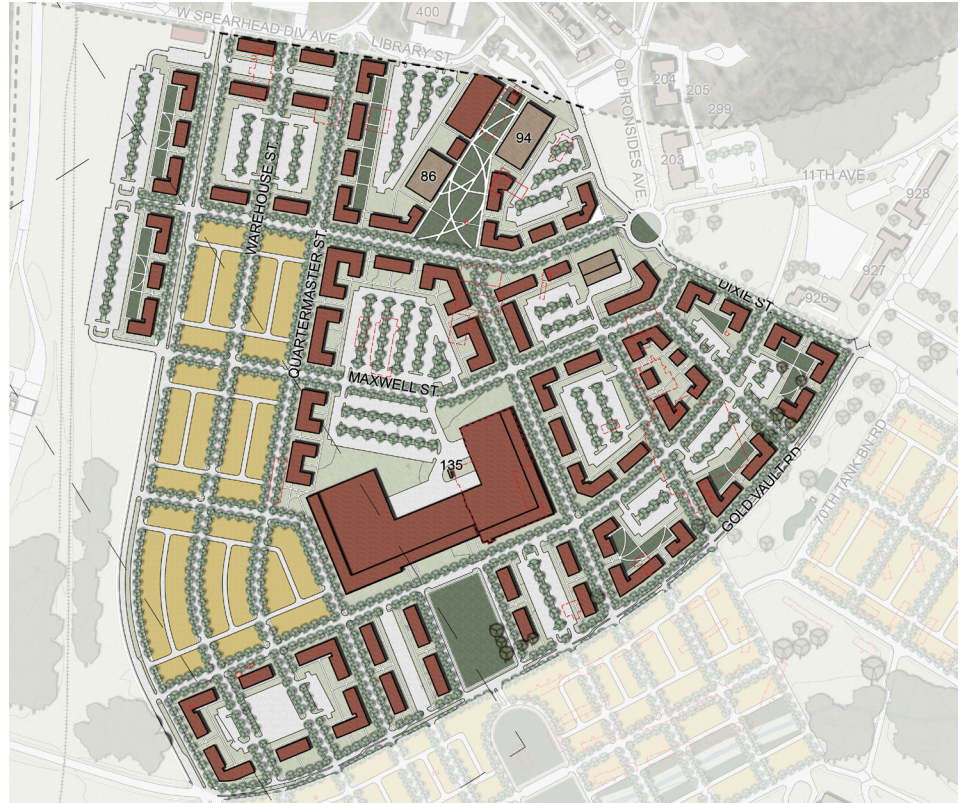
#### 5. SketchUp Modeled

Pros

1. Program is extremely user friendly, and easy to learn
2. You can easily import existing site drawings and building plans into a three-dimensional model
3. Animations can be easily be made  
\*Formerly Google SketchUp

Cons

1. Two-dimensional rendered models lack realism
2. Program may not be readily downloadable to government issued computers
3. Trimble has eliminated its freeware version



Photoshop rendering of Fort Knox, Kentucky. (Image courtesy of The Urban Collaborative)

#### 6. Photo-Realistic Modeling

Pros

1. Changes to the model can be made with minimal time and effort
2. Time-phased before and after images allow for easy visualization
3. Easy to label


Cons

1. Requires a moderate amount of time to become proficient at perspective drawing
2. Required program may not be readily accessible

Learning how to create a plan and perspective drawing is an important tool. On a large scale, it can help installation planners visually portray a master planning vision. On a smaller scale, it can support project qualities like compact development at Fort Hood, Texas; a walkable town

center at Ellsworth Air Force Base, South Dakota; or architectural qualities unique to a historic location such as the Old Fort Knox District, Fort Knox, Kentucky. Being able to present your plan verbally is important. But being able to visually represent it is even better. After all, it was Napoleon Bonaparte who said, “A good sketch is better than a long speech.”

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## U.S. Army Garrison Natick plans new family housing

by Bob Reinert

**A**rmy Family Housing units located at Heritage Lane, U.S. Army Garrison Natick, Massachusetts, will be replaced with new townhomes beginning in fiscal year 2017 provided Congress approves funds for the project. The \$14.5 million military construction project at U.S. Army Garrison Natick would include the demolition of the existing housing units built in 1973 and the construction of new units.

“Across the Army, there has been an initiative to modernize Army Family Housing as both a quality-of-life and a readiness issue at all posts, camps and stations,” said Lt. Col. Ryan Raymond, garrison commander. “The other services are doing it, as well.”

At some larger installations, the Army has joined with commercial partners to privatize its housing. That, however, has not happened at Natick.

“We haven’t been able to find a partner here for our housing areas, just because they can’t make the business case for it,” Raymond said. “So, it’s taken a little bit longer for Natick to be able to modernize its housing.”

Currently, the installation has 75 units spread across four housing areas, a number that will be reduced in the future, according to Raymond.

“The Army has determined, based on our Soldier population, that we only require 48 (units),” he said. “So we’re going to try to go with fewer but better housing units to really entice Soldiers to want to occupy the family housing.”

While the plan is to build only 19 units at Heritage, the overall square footage there would actually increase from 35,325 to 41,130. As Raymond pointed out, larger residences with more bedrooms and bathrooms would bring the housing in line

with community standards. The new units also would be more energy efficient and environmentally friendly.

“I think everything that you see in this project when (it has) materialized will be representative of the Army’s commitment at the strategic level to a more efficient, more environmentally friendly footprint,” Raymond said.

Funds approval would be followed by final design work and the evacuation and demolition of the existing units.

“We’d hope to have that wrapped up by the end of fiscal year (2018),” Raymond said.

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*The U.S. Army Garrison Natick plans to replace family housing on Heritage Lane built in 1973 with new townhomes. (U.S. Army photo)*



## New Digs: Rock excavation completed on new Cadet Barracks

by JoAnne Castagna

**D**uring the past two years, the U.S. Army Corps of Engineers has blasted and hauled away enough rock to fill a football field 32 inches high to make way for a new Cadet barracks at the U.S. Military Academy at West Point, New York.

The work was performed under difficult conditions - surrounded by historic buildings filled with thousands of Cadets. The team members worked in this restrictive area with great care knowing that they will relieve the tight living quarters being experienced by the Cadets who are presently living in overcrowded conditions.

Today the rock blasting is done, and Davis Barracks is being constructed. The barracks will not only provide much needed living space, but also be energy efficient and save taxpayers money.

"A new barracks that meets current Army standards is needed to relieve overcrowding in the existing barracks," said Matthew Ludwig, chief of military programs, U.S. Army Corps of Engineers, New York District. "Right now, the entire first-year class and part of the second-year class are housed with three Cadets in rooms designed for two Cadets. This project will allow assignment of two Cadets per room upon completion of the entire Cadet Barracks Upgrade Program."

Davis Barracks is being designed and constructed by Army Corps contractor Walsh Construction Company of Chicago, and its designer, Clark Nexsen.

The barracks will be 287,000 square feet in size with six floors. Five floors will accommodate 130 Cadets in two-person rooms. The entire barracks will provide living space for 650 Cadets, who will be provided with latrines and showers, a laundry area, day rooms, office areas, study and collaboration rooms, trash and recycling areas and offices and storage rooms.

"The Corps has made major progress



*U.S. Army Corps of Engineers personnel work on the Davis Barracks construction site at West Point, New York. (Photo by James D'Ambrosio)*

over the past two years since this project was awarded," said Catherine Scott, team leader, U.S. Army Corps of Engineers, New York District. "We completed blasting and removal of almost 60 feet of solid rock from the top of a mountain, and then hauled approximately 150,000 cubic yards of this rock to off-site locations, all done from a restricted project site surrounded by historic structures occupied by over 4,000 Cadets."

The barrack's infrastructure was expected to be completed in December with work then beginning on the granite exterior façade, windows and doors as well the mechanical and plumbing equipment and the interior finishes.

"An architectural highlight in this structure's design is the central light well in the building's center. There is a large 17-foot square skylight on the roof and a large open area on each of the floors below; this central 'well' space will allow natural daylight to illuminate the common area of the barracks," Scott said.

"This aesthetic design will provide an open feeling for Cadets when they

gather together in the study rooms or collaboration rooms on each floor. A similar skylight is being built above each of the two main stairs at each end of the building to provide similar lighting in these stairwells."

As for the exterior façade, Davis Barracks will fit in well with the rest of the 200-year-old campus. Like the surrounding buildings, it will be constructed in military gothic revival architecture.

The design will include granite veneers or overlays, gothic arches, sally ports or secure entryways and crenellated parapets with embrasures and limestone accents.

The barracks also will have energy efficient features to achieve Leadership in Energy and Environmental Design Silver certification, which is expected to save taxpayers approximately \$44,000 annually.

"The design uses innovative methods to control the climate in the Cadet rooms through plastic tubing that is being installed in the concrete floor slabs. This tubing will provide radiant heating during

*(See Cadet Barracks, page 30)*



## Omaha District architects talk best practices for sustainability

by Eileen Williamson

Three U.S. Army Corps of Engineers Omaha District architects who are providing in-house design for several facilities at Fort Carson, Colorado, as part of the 4th Combat Aviation Brigade, recently sat down with Army Corps of Engineers Northwestern Division Military Construction program manager Dave Packard to talk about their projects and the design process.

Each of the district architects, Andy Temeyer, Askelon Parker and Karen Jarvis, has designed projects for hangars and support facilities at Fort Carson's Butts Army Airfield. Military construction projects often have unique aspects that pose challenges the Army Corps of Engineers professionals embrace as they do their best to deliver in the most efficient and flexible way possible.

The project architects provided some thoughts on how Army Corps of Engineers design teams pride themselves in providing flexibility on even the most challenging projects and designing sustainable facilities for the United States military.

1. **Engage Army Corps of Engineers Project Delivery Teams.** They are familiar with federal sustainability concepts, policies, and goals. Tough questions early-on in planning and programming allow designers to plan realistically for design, construction,



U.S. Army Corps of Engineers Omaha District architects, Karen Jarvis, Askelon Parker (left) and Andy Temeyer (right) sit down with Northwestern Division Military Construction program manager Dave Packard to talk about design projects at Fort Carson, Colorado. (Photo by Kevin Quinn)

- and operations.
- 2. **Start as early as possible.** Early or proper planning and programming can yield long-term success during design and construction. Engage all appropriate stakeholders including the Director of Public Works, installation civil engineer, Centers of Standardization, etc.
- 3. **Establish clear goals.** Root all stakeholders in higher-level policies to ensure they reflect the types of

- facilities that all are being tasked with procuring. Army Corps of Engineers designers can often be the bridge among sometimes difficult challenges.
- 4. **Coordinate.** Building Information Modeling and energy modeling are good tools to facilitate coordination among design teams. These tools allow designers to essentially construct a facility in virtual reality. So much more can be learned about a facility this way.
- 5. **Iterate.** An iterative design process yields better-tuned, higher performance facilities.
- 6. **Choose the best design/contracting mechanism for the job.** Not all projects are created equally. Choose the contracting mechanism that has the best potential to yield the intended results within schedule and budget limitations.
- 7. **Invest in the design process.** Committing to a successful design effort should yield payback throughout the life of the facility.


(Cadet Barracks, continued from page 29)

the winter months as well as radiant cooling during the summer season. While radiant heating has become more widespread and popular in recent years, using the same tubing to cool the ambient space is a relatively newer technique," Scott said.

In addition, solar panels will be installed on the flat roof space of the new barracks as another innovative way to control energy costs.

Davis Barracks is expected to be completed by summer, and Cadets will be able to use the new facility by the end of December.

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(See Architects, page 31)



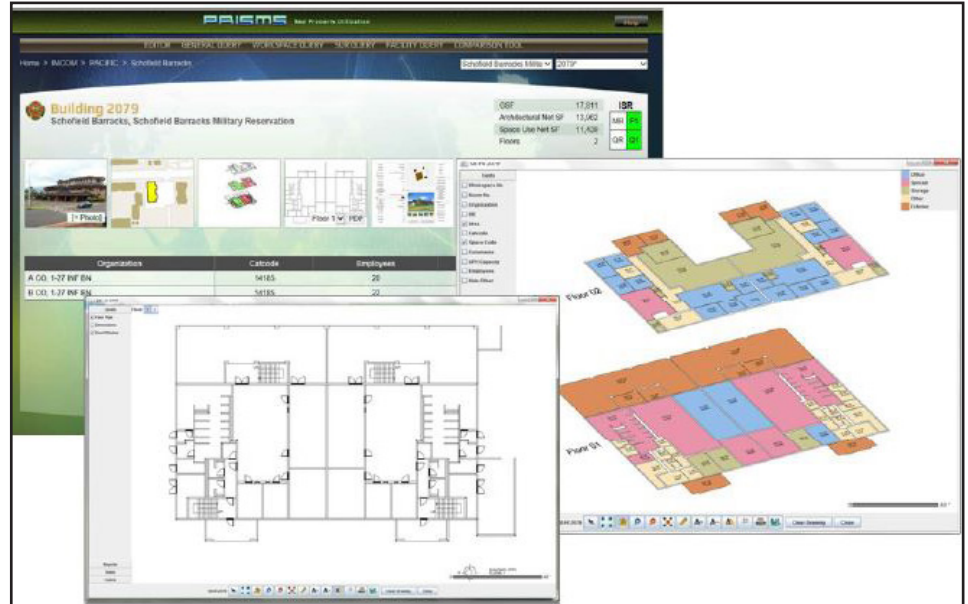
## Space management assistance tool helps manage facilities' use

by Norman Cotter

**P**ro-active Real Property Interactive Space Management System, while not a new system, is now an Enterprise solution for U.S. Army garrisons to manage the use of their facilities. The Office of the Chief of Staff for Installation Management Installation Geospatial Information and Services program team now manages the system for Army-wide use. For garrisons, this means they will not have to fund or manage a local system, and data is hosted in a secure cloud environment that is always available to authorized users. Garrisons are still responsible to collect and maintain their own data.

A handful of garrisons have used PRISMS in the past and as planners have moved from one site to another, they have spread the word on PRISMS capabilities. This has resulted in many garrisons either running older, stand-alone versions of PRISMS or gathering the data in anticipation of the Enterprise system going live in the second quarter of fiscal year 2016. As an example, Joint Base Lewis McChord, Washington, and Fort Drum, New York, have recently completed their data gathering.

Headquarters Installation Management Command sees this system as a valuable



tool for garrisons, has set aside resources to assist in the initial implementation, and, in conjunction with the OACSIM team, has developed a long term strategy to sustain the program. Initially a generic scope of work was developed to address the requirements necessary to gather data and develop PRISMS files to upload into the Enterprise system. Data includes detailed floor plans, how the space is used, and who uses the space within each facility surveyed.

At the end of fiscal year 2015, HQ IMCOM funded PRISMS data gathering contracts for eight garrisons. These contracts were awarded through three different U.S. Army Corps of Engineers District offices to three different contractors. Garrisons and their square footages include Fort Carson, Colorado, (10 million); Fort Campbell, Kentucky, (6.8 million); U.S. Army Garrison Daegu, South Korea, (6.4 million); Fort Bliss, Texas, (11 million); Fort Polk, Louisiana, (11 million), Fort Benning, Georgia, (11M); Aberdeen Proving Ground, Maryland, (14.7 million); and Fort Belvoir, Virginia, (6.1 million).

Kick-off meetings have been conducted during the past few months and data collection has started. As an average, contractor field work teams will gather data during the next six months, typically

(See PRISMS, page 32)

(Architects, continued from page 30)

There are so many parallel efforts between the different services, a collaborative investment in a design process can foster shared knowledge and a greater investment in the overall process.

8. **Validate goals.** Throughout the design and construction process, review the project goals to ensure work is focused on these goals. Validation is also beneficial during facility operations such as re-commissioning or retro-commissioning.
9. **Stay Engaged.** Design teams should stay engaged as appropriate

through construction. Implementing an effective feedback loop that involves all stakeholders including Army Corps of Engineers headquarters will improve business processes.

10. **Educate facility occupants and operations personnel at turnover.** Proper operations and maintenance ensures a high-performance building stays “tuned” throughout its intended life.

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Acronyms and Abbreviations	
HQ IMCOM	Headquarters Installation Management Command
OACSIM	Office of the Chief of Staff for Installation Management
PRISM	Pro-active Real Property Interactive Space Management System



# Real Property Planning and Analysis System upgrades on tap for 2016

by Norm Schaefer

**H**eadquarters Installation Management Command is providing some additional support via contract in fiscal year 2016 related to the Real Property Planning and Analysis System as the command works to ensure the fiscal year 2015 contracted effort flows seamlessly into the fiscal year 2016 contract effort.

As that occurs, there will be some noticeable upgrades the installations will want to note:

1. The contractor will continue to review edits generated and submitted by installation personnel. The contractor staff will also continue to make recommendations (approval or disapproval) related to the edits they review. They also will continue to provide training, mentoring, etc., for those edits they cannot recommend approval -- as much training/mentoring as is needed to get the edits to the point the edits can be recommended for approval. This is no change compared to the fiscal year 2015 contract.
2. In addition to conducting one-week Real Property Planning and Analysis System Support Site Visits this fiscal year, the contractor will conduct some two-week site visits. The intent is to conduct either a one-week or a two-week visit at most of the Installation Management Command installations that did not receive a visit last fiscal year. Additionally, if possible, a site visit will be offered this year to some installations



Personnel at Fort Riley, Kansas, participate in a Real Property Planning and Analysis System Support Site Visit. (U.S. Army Photo)

- that received one of the early visits conducted in fiscal year 2015.
3. This year's contract requires the contractor to generate some edits on behalf of the installations. However, the contractor will not be required to conduct the requirements analysis that must precede generation of edits. That part of the process will remain an installation responsibility. More details will be distributed as they become available.
4. Also on tap is updating the Headquarters Installation Management Command Real Property and Analysis System Guide on How to Do

Edits. The new/improved guide will include:

- a. Explanation of what the installations must do and the type of information the installations must produce for the contractor to generate edits on behalf of the installations.
- b. Guidance on how to do edits specifically for airfield pavements.
- c. Direction on how to do a Net-to-Gross correction edit (one per Category Code as necessary).
- d. Guidance on how to do edits related to Privatized Assets.

(See Upgrades Set, page 33)

(PRISMS, continued from page 31)


using several on-site teams. Data is then fed back to the home station for processing into Enterprise PRISMS files. The PRISMS Quality Assurance/Quality Control validation tool is then run to assure the files are error free and ready to upload into PRISMS. Initial uploading will be performed by the OACSIM team until the system is fully

tested and operational.

HQ IMCOM will assess the effectiveness of this approach and refine the garrison support this fiscal year and beyond. The plan is to review the progress of the eight contracts in early spring and be ready to assist the next round of garrisons in the summer. While HQ IMCOM will not fully fund a garrison's total inventory, starting with key types of facilities and

possible cost sharing will give a garrison the jump-start needed to have a working, viable PRISMS that it can use in its daily business.

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# Supporting the Soldier: Tulsa District stays busy on historic Fort Sill

by Brannen Parrish

Since its founding as a forward post on the nation's western front, historic Fort Sill, Oklahoma, has been home to generations of warriors. From the United States 7th Cavalry, led by Col. George A. Custer, to the Buffalo Soldiers of the 10th Cavalry.

Fort Sill's original stone structures were built by the Soldiers of the 7th and 10th Cavalry, with 95 percent of them still standing.

In the past year, the U.S. Army Corps of Engineers Tulsa District has delivered two facilities with a combined cost of \$60 million to the installation, and is currently overseeing another \$84 million in construction at Fort Sill.

During a visit to Fort Sill, Brig. Gen. David C. Hill, Corps of Engineers Southwestern Division commander, toured the installation to see the work the district had accomplished.

"I continue to be amazed at the willingness of Corps employees to innovate and be as creative as we can to be good stewards of our nation's resources," Hill said.

## Reception Battalion Complex

In December 2014, the Tulsa District Military Construction Branch turned over the Fort Sill Reception Battalion facility



The Reception Battalion Complex at Fort Sill, Oklahoma, is a 93,000 square foot facility that includes medical and dental screening facilities, a uniform and equipment issue warehouse, barbershop and personnel processing offices. More than 20,000 men and women starting their Army careers will pass through the complex annually. (Photo by Ed Johnson)

for occupancy. The 95th Adjutant General Battalion moved in and quickly began operating.

The 93,000 square foot facility includes medical and dental screening facilities, a uniform and equipment issue warehouse, barbershop and personnel processing offices. More than 20,000 men and women

starting their Army careers will pass through the complex annually.

Significant in the construction of the \$33 million project is the use of void forms to balance the effects of southwestern Oklahoma's expansive clay soil.

"The foundation systems at Fort Sill have to be specialized because the soil expands and contracts depending upon the amount of humidity," said Kent Bray, an engineer with the Tulsa District's Project Office at Fort Sill. "Void forms are manufactured from a cardboard type material that begins to deteriorate when they get wet or absorb moisture. It's like a self-supporting concrete slab built six inches above the ground."

When clay absorbs moisture it begins to expand, simultaneously the void forms absorb the humidity and moisture and slowly break down, allowing the clay to fill the space left by deteriorating cardboard.

Additional highlights include a rain water harvesting system with one, 30,000

(See Fort Sill, page 34)

(Upgrades Set, continued from page 32)

e. An improved explanation of how to do edits related to contractors that require facility space.

A significant piece of information for installations to remember is that a site visit is not a prerequisite to generating and submitting edits for the contractor to review as described above. Installations must feel free to generate and submit as many edits as needed, as long as the contractor is notified that one or more edits have been submitted and are ready for review. When doing this, please ensure that the allocation

of edits for the installation has not been exceeded. Also, please remember that as the limit of allocations draws close, additional allocations are available, so there is no need to be concerned about exceeding the allocation – just be aware of the existing limit and request additional allocation when necessary.

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(Fort Sill, continued from page 33)

gallon tank to collect roof runoff and provide irrigation for landscaping.

In conjunction with the complex's construction, the Tulsa District is overseeing the renovation of an existing battalion headquarters building and a company operation facility organizational storage facility that will include creation of a quarter mile running track. In the first week of March, nine vacated buildings formerly used by the battalion were demolished.

#### Air Defense Artillery School Training Facility

On the heels of the delivery of the Reception Battalion Complex, Tulsa District delivered a \$27 million air defense artillery training facility in January 2015.

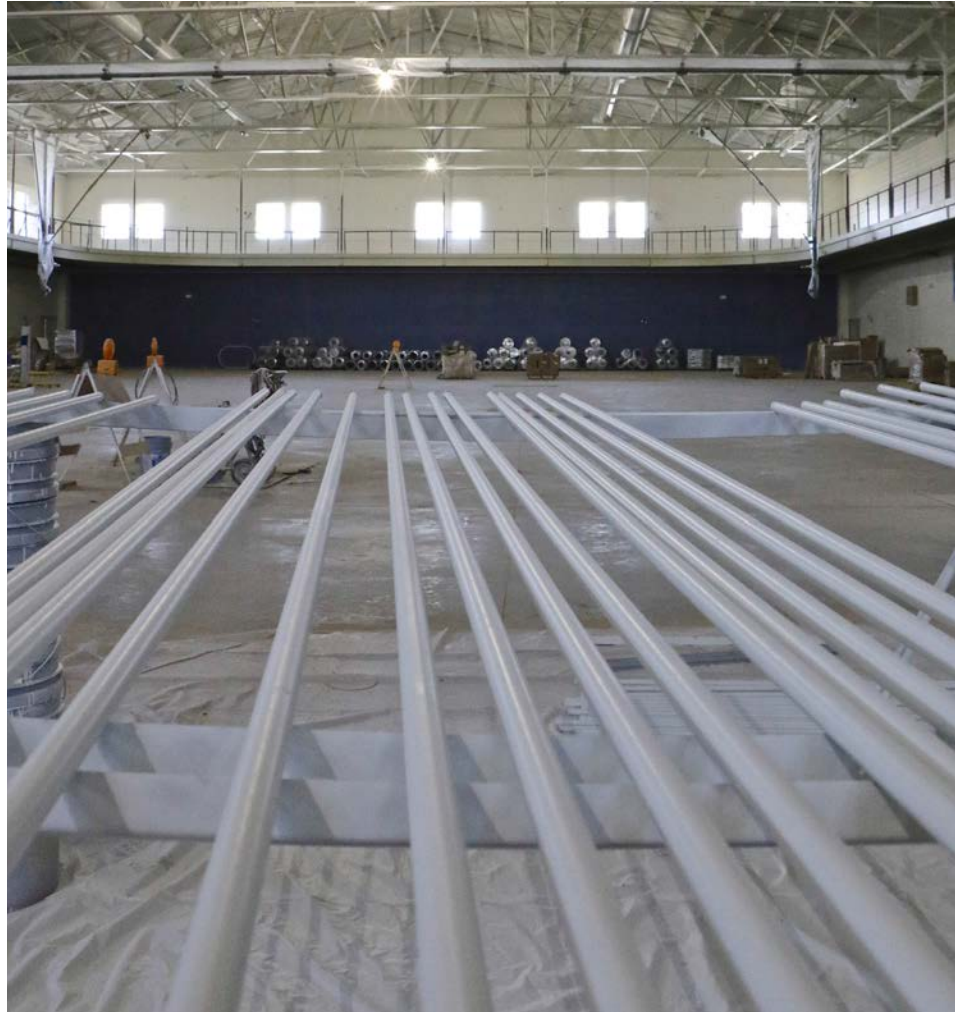
The Terminal High Altitude Air Defense Artillery facility will add to Fort Sill's Fires Center of Excellence mission of training artillery Soldiers.

According to Tulsa District Commander Col. Richard A. Pratt, the district strives to meet customer demands for the next generation of Soldiers.

"Our nation's ability to defend itself is ensured by the warfighter, and the quality of training ensures the warfighter's ability to provide that defense," Pratt said. "The Corps of Engineers doesn't train the Soldier, but our ability to deliver quality, time-sensitive infrastructure impacts the Army's ability to deliver effective training. The foundations, walls and roofs we build today, will support the Soldiers that the Army builds for generations."

The Tulsa District oversaw the construction of the two-story 97,720 square foot building, which the Terminal High Altitude Air Defense system personnel will use in its mission to intercept short, medium and intermediate ballistic missiles.

The building contains 10 multi-use classrooms, eight 4,000 square foot rooms



*The 89,449 square foot physical fitness complex being built at Fort Sill, Oklahoma, includes three basketball courts, an elevated running track, two racquetball courts, a close quarters combat training area, climbing wall, spinning room, sauna, locker rooms, child care area, cardiovascular area and rooms for group exercise. The Fort Sill fitness facility will be the largest fitness facility on the post and will operate 24 hours per day, seven days per week. (Photo by Ed Johnson)*

for tactical labs, radar labs and simulators, a safe room, and an 11,000 square foot multi-functional training bay.

A 100 kilowatt photovoltaic solar panel array feeds into the main distribution panel to reduce commercial power consumption by five percent. Two 50,000 gallon rainwater storage tanks collect roof rainwater runoff and can be used for makeup water for mechanical systems and to provide irrigation for landscaping during dry spells.

"This represents the culmination of a lot of activity to get the facility built, the instructors trained, and the training devices were built and delivered," said Brig. Gen. Christopher Spillman, Air Defense Artillery School commandant and chief of Air Defense Artillery, during the building's ribbon cutting. "All of that required a monumental amount of work and coordination from various stakeholders across the air defense artillery community."

(See Fort Sill, page 35)



# Workshop brings together DPWs, new IMCOM Commander

by Candice Walters

**W**ith words of encouragement echoing from the new commander of the Army Installation Management Command, directors of public works are now poised to tackle new challenges in fiscal year 2016 and beyond.

Meeting Nov. 17-19 in Orlando, Florida, more than 70 directors of public works participated in a workshop devoted to addressing issues and concerns and looking to the future of the Army DPW community.

It was the first public works directors' workshop in seven years and the first for Lt. Gen. Kenneth Dahl, who took the reins of the Installation Management Command Nov. 3. He noted that throughout his Army career he has been the recipient of public works services on installations and now finds himself ready to support the public works directors as they take on the tough challenge of prioritization – “deciding what important things you are deliberately not going to do” in times of dwindling financial resources and personnel coupled with increasing demands.

“Everyone, including senior leaders, needs to learn how to make hard choices, something most of us are not really trained to do,” Dahl said, adding that it’s a skill set that everyone is going to need to learn. “We can’t do everything, we have to be realistic and practical.”

Dahl said he appreciates how stretched the public works directors have become throughout the years and the “innovation

**I am confident in your leadership, your expertise, and your passion.**

*Lt. Gen. Kenneth Dahl*

and creativity” they have shown in trying to continue to do their missions at the same level. The focus now, he said, has to be on Soldier and unit readiness and doing those tasks at the installation level that will enable Soldiers and units to improve and sustain their readiness to respond to the

Nation’s needs.

“I am confident in your leadership, your expertise, and your passion,” Dahl said. “I trust you.”

Among the topics discussed during the workshop were the facility investment strategy of sustainment, restoration, modernization and disposal, building turnover, and the challenges and best practices of work execution through contracting. The public works directors, along with representatives from the Office of the Assistant Secretary of the Army for Installations, Energy and Environment, U.S. Army Corps of Engineers, the Office of the Assistant Chief of Staff for Installation Management, Army Materiel Command, Training and Doctrine Command and U.S. Army Forces Command, also spent a great deal of time discussing how to balance their workloads and missions with declining resources in both dollars and manpower.

“It was critical to bring together all the senior public works professionals from across the Army in one room to discuss

*(See DPW Workshop, page 36)*

*(Fort Sill, continued from page 34)*

## Chapel Complex

To assist in the Army’s goal of providing opportunity for spiritual well-being and rejuvenation for Soldiers and trainees at Fort Sill, the Corps of Engineers is overseeing the construction of a standard chapel complex with a regular capacity of 600. Including classrooms adjacent to the sanctuary, the building can accommodate nearly 1,200 Soldiers.

## Physical Fitness Facility

To be effective an army must remain physically fit. Tulsa District is overseeing a physical fitness facility at Fort Sill to house recreation opportunities that would make any college athletic coach jealous. This is

not your grandfather’s old gymnasium. The \$23.1 million facility is being built with the modern Soldier in mind as the Army recognizes that fitness includes more than running and pushing weight around.

The 89,449 square foot complex includes three basketball courts, an elevated running track, two racquetball courts, a close quarters combat training area, climbing wall, spinning room, sauna, locker rooms, child care area, cardiovascular area, and rooms for group exercise.


The Fort Sill fitness facility will be the largest fitness facility on the post and will operate 24 hours per day, seven days per week.

As the Army transitions to fight the wars of tomorrow, the Tulsa District will be there to provide Soldiers with well-designed, first-class structures to live, train

and work within.

“The foundations we build today will support tomorrow’s Soldiers and at the end of the day, Soldiers are our most important end-user,” Pratt said. “We are charged with delivering products that impact our nation’s ability to effectively train and develop future warfighters. We take that charge seriously. At the end of the day, our customer really isn’t just Fort Sill or the Army; at the end of the day our customer is the nation.”

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## Wage Grade Employees have Civilian Education System options

by Lerone Brown

**D**id you know that both General Schedule and Wage Grade employees can participate in U.S. Army civilian education opportunities? Did you know that 35,000 employees, approximately 12 percent of the 296,000 Department of the Army civilian employees, are Wage Grade employees? The Army is committed to providing systematic organizational, occupational, and individual growth for all Army Civilians.

There are unique challenges associated with training Wage Grade employees. While these challenges may seem daunting at times, the Army does provide resources to support participation by all employees, whether they be General Service or Wage Grade, in training, education, and professional development.

The Civilian Education System was established in 2007 to link the Army's strategic human capital vision with

the Army's competitive professional development. It is the foundation of the Army's leader development program for all Army Civilians, providing progressive and sequential education courses throughout their careers.

All Department of the Army employees, no matter whether they are General Service or Wage Grade, should take the Civilian Education System foundation

*(See Wage Grade, page 37)*

*(DPW Workshop, continued from page 35)*

the enterprise management of public works," said Greg Kuhr, Headquarters Installation Management Command director of facilities and logistics.

"We looked at all the focus areas from business operations to energy to manpower as well as basic resources. The most invaluable part of the workshop was the ability to cross talk, to share best practices and lessons learned. Our facilities are part of Army readiness and that's our focus," he said.

One area stressed during the workshop was the need for garrison directors of public works to become instructors at the Installation Management Command School of Public Works, which has been stood up at Fort Sam Houston, Texas, as part of an effort to ensure that new directors of public works and those who work in public works can understand how all parts of the mission come together and gain a better perspective. That dovetailed with the presentation on career program management and the need to ensure employees are taking advantage of training opportunities, including receiving credentialing and certification. Developmental assignments are encouraged as well as rotations to other installations.

For Sally Pfenning, director of public works at U.S. Army Garrison Hawaii,

the workshop provided her with a list, actually 17 pages, she said, of ideas and opportunities to investigate that might provide solutions to issues her installation is facing. "It was an opportunity to not only see people face-to-face, but to share some common issues and learn new ways of doing things without having to reinvent the wheel," she said.

Learning how to approach the workload by integrating technology was on the mind of Kyle Wemett, the chief of master planning at Fort Stewart, Georgia. "I was interested in learning more about

**Our facilities are part of Army readiness and that's our focus.**

*Greg Kuhr*

integrating the right technology with the right people. I think that will go a long way in alleviating some of the workload issues we are facing," he said. "It was good to hear the issues that everyone else is facing. I only see the Fort Stewart ones, so it was nice to get everyone else's perspective."

Installation Management Command leaders told the audience to expect dwindling resources and manpower to continue as leadership explores ways to reset and rebalance, noting that the time is

ripe to centralize some of the workload through enterprise initiatives. The goal is to align workload with resources to establish as efficient public works organization by 2019.

For Tony Roberson, military integration division chief at the Army Corps of Engineers Southwestern Division, the workshop gave him "a better appreciation of the issues the DPWs face. They have a daunting task and this workshop has given me some ideas about some more help that we (the Army Corps of Engineers) might provide to build a better partnership," he said.

Garrison commanders and other senior leaders are being asked to look at the space on their installations to determine how much space needs to be retained and where, what space can be reduced through mothballing (laying away whole facilities) or through demolition. All of these efforts are part of what one presenter called "balancing the footprint."

The next workshop is being planned for some time during the next 18 to 24 months.

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*(Wage Grade, continued from page 36)*

course. In fact, it is mandatory for all new Army employees who started after Sept. 30, 2006. Other courses employees should consider are the Basic Course, Intermediate Course, Advanced Course, and the Supervisor Development Course.

Employees can get more information about course enrollment at the Civilian Human Resources Training Application System website: <https://www.atrs.army.mil/channels/chrtas/Web/Help/cesfaq.aspx>.

The Army Civilian Training and Leadership Development home page at <http://www.civiliantraining.army.mil> has a wealth of information about civilian professional development training opportunities to include Civilian Education System courses. While the web page specifically states that the courses are available to Wage Grade employees, the course descriptions only use the General Schedule pay scale. For example, the Basic Course, is listed as being available to General Service-01 to General Service-09 employees and does not list the equivalent Wage Grade pay scale. That may leave Wage Grade employees believing these courses are not available to them. However this is not the case. Wage Grade employees are encouraged to attend the courses.

Many Wage Grade employees do not regularly access Army network computers to perform their day-to-day jobs. On the other hand, General Service employees do because their day-to-day job requires the use of computers, which also allows them to complete training at their desks. Additionally, some Wage Grade employees do not have basic computer operating skills, which creates a challenge to completing on-line training. According to a June 2012 article in the *American International Journal of Contemporary Research*, Fortune 500 companies in the United States, such as Ford Motor Company and GMC, are creating training programs to train their



*An U.S. Army Wage Grade Civilian employee repairs a piece of equipment.  
(U.S. Army Photo from the U.S. Army Posture Statement 2015)*

workforce in basic computer skills. These companies believe that providing basic computer skills training is one solution to achieving organizational success.

Department of the Army supervisors have undertaken this same approach. For example, at the U.S. Army Corps of Engineers Mississippi Valley Division, a maintenance supervisor conducts basic computer skills training for his employees during down time. Other supervisors can play a similar role in developing basic computer operating skills in their Wage Grade employees.

An additional solution to these challenges includes creating a hard-copy, one-volume self-study guide for the Foundation and Basic courses requiring Wage Grade employees to use a computer only once to take the final exam. The employee could take the exam at the training coordinator's office or a test center

if he or she needs help to use the computer. Having those two courses completed and recorded in their official personnel record can help Wage Grade employees become competitive for other Army jobs.

Bottom line, Civilian Education System training is open to all Army civilians, General Service and Wage Grade alike. Managers and supervisors need to ensure all of their employees are aware of the education opportunities available to them and encourage them employees to take advantage of the training opportunities.

Please send all questions to the Career Program-18 Proponency Office at [CP18ProponencyTeam@usace.army.mil](mailto:CP18ProponencyTeam@usace.army.mil)

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# Defense Department Master Planning Institute adds resiliency course

As many Department of Defense entities begin to focus more on resiliency, the Department of Defense Master Planning Institute is now offering a new planning course that focuses on sustainability and resiliency.

Course 163: Master Planning Sustainability and Resiliency is being offered June 28-30 in Champaign, Illinois. The course connects the key elements of sustainable planning with resiliency factors. The course goal is to make planners more effective by providing them with an understanding of the role of master planning in achieving sustainability and resiliency goals, including net zero planning. Students will learn how to use the U.S. Army Corps of Engineers-developed Net Zero Planner tool to achieve resilient solutions in conjunction with master planning. For non-planners, the course provides links to achieve sustainable, resilient installations.


The Master Planning Institute operates under the auspices of the Army Corps of Engineers Proponent Sponsored Engineer Corps Training Program. Attendees come from defense department services, other federal agencies and private sector representatives. All courses are fully certified by the American Institute of

Course Number	Date and Location	Title	Cost
258	April 26-29, 2016 Taos, New Mexico	Master Planning Energy and Sustainability	\$ 2,020
241	May 10-13, 2016 Louisville, Kentucky	Master Planning Practices	\$ 2,100
75	May 17-20, 2016 New York City	Master Planning Principles	\$2,000
163	June 28-30, 2016 Champaign, Illinois	Master Planning Sustainability & Resiliency	\$ 2,025
392	July 12-14, 2016 Washington, District of Columbia	Master Planning Sustainable Historic Structures	\$ 1, 400
319	July 25-26, 2016 Fort Worth, Texas	Master Planning Guideline Implementation	\$ 1,325
326	July 27-29, 2016 Fort Worth, Texas	Master Planning Execution	\$ 1,600
948	August 2-5, 2016 Huntsville, Alabama	Master Planning Visualization Techniques	\$ 2,100
952	August 16-19, 2016 New Orleans	Master Planning Area Development Planning	\$ 2,300

Certified Planners, American Institute of Architects and National Society of Professional Engineers. All courses provide continuing education credits.

For more information about the courses being offered this year, along with detailed descriptions, costs and registrations, go to

<http://ulc.usace.army.mil> or <http://www.dodmpi.org/>.

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We appreciate your feedback. Issues accessing the survey? Email the [editor](#).



# From the Editor: Changes coming to Public Works Digest

**A**s we begin 2016, we have some changes coming to the *Public Works Digest*.

First and foremost, let me introduce myself. I am Candy Walters, the new managing editor for the publication. I have been part of the public affairs community within the U.S. Army Corps of Engineers and Army installation community for 23 of my 25 years as a Department of Defense civilian employee.

I am thrilled to take on this new position as I have not only read, but have written articles for the *Public Works Digest* for the better part of 18 years. As a journalism major in college, newspapers/newsletters are in my blood and the opportunity to edit this publication is something that I have been eyeing for a number of years. I am excited to be part of the Installation Management Command/Army Corps of Engineers team that brings you this publication each quarter.

One of the first things that I want to do is find out your thoughts and ideas about the *Public Works Digest*. As printing

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budgets tighten and many people not only within the Army public works community but the public as a whole find themselves getting their news and information from their computers and other technology, I am wondering if we need to change our delivery method for bringing you the newsletter. I put together a short survey that you can do online and will take about five minutes or less to complete. It will give me a bit of guidance on what you want to see in the *Public Works Digest*, tell me how you read and access it, and give me some information

to use as we discuss the way ahead.

Please let us know how we can make the *Public Works Digest* work better for you by taking the online survey at : [https://ice.disa.mil/index.cfm?fa=card&sp=13662&cs=1263&xdep=\\*DoD&sc=5](https://ice.disa.mil/index.cfm?fa=card&sp=13662&cs=1263&xdep=*DoD&sc=5)

Also, I would like to thank Debra Valine, the public affairs officer at the U.S. Army Engineering and Support Center, Huntsville, who has been filling in as the managing editor for the *Public Works Digest* for the past eight months. This was basically an “other duties as assigned” mission for her and she not only ensured that the *Public Works Digest* came out on time, but that the publication’s quality standards were met and exceeded. Great job!

And now for the other piece of news, which is bittersweet, to say the least.

Gregg Chislett, who most of you have worked with during the past five and a half years in his position as deputy director, Facilities and Logistics Directorate, Headquarters, Installation Management

Command, is retiring at the end of January.

Chislett has served as the Installation Management Command point of contact for the *Public Works Digest* during his tenure. He has been a champion for the *Public Works Digest*, encouraging Directors of Public Works across Army garrisons to share the good news of how their programs and initiatives are enabling readiness for today’s Army while ensuring that the Soldiers and their families are well taken care of on their installations. By sharing their successes and



Gregg Chislett

innovations with others through the *Public Works Digest*, other Directors of Public Works can incorporate them into their installations as they look for ways to do their jobs more efficiently and effectively.

Please join me in wishing Gregg Chislett well as he enters a new chapter in his life and to thank him for all he has done not only to make the *Public Works Digest* a better publication but for the positive impact he has had on Army installations.

And at the same time, please join me in welcoming Michael Grizer, who has been selected as the new deputy director, Facilities and Logistics Directorate, Headquarters, Installation Management Command. He will be the directorate’s new point of contact for the *Public Works Digest*. I am looking forward to working with him as I am sure all of you are as well.

Again, I’m looking forward to working with all of you on future issues of the *Public Works Digest*.

Candy Walters  
Managing Editor

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