

Installation Energy Master Plan



Energy Planning: Key consideration in installation master planning

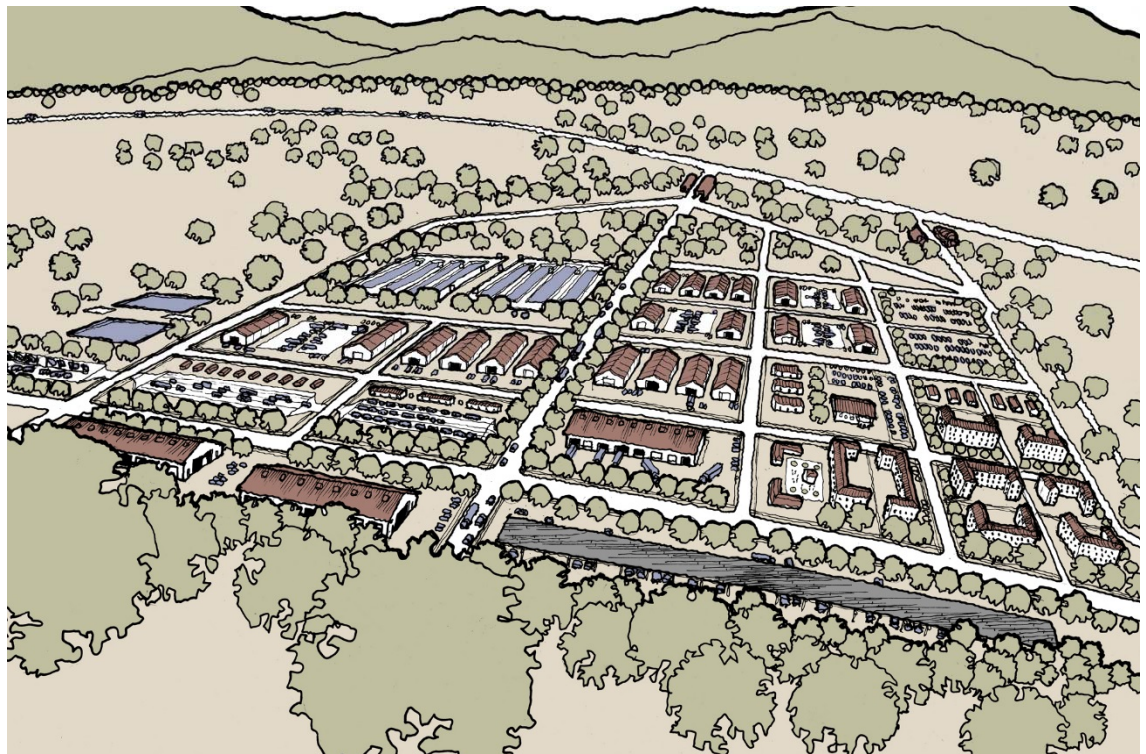
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HQ U.S. ARMY CORPS OF ENGINEERS


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Installation Energy Planning

- Sustainability/Energy Planning
 - Core Strategy of installation Master Planning
- Guiding principles in the planning and development of installations
- Federal, and DoD directives guide comprehensive solutions



Sustainability/Energy Planning Integrated with installation Master Planning

- National Defense Authorization Act 2013
 - ...ensure all installations must have an installation master plan that addresses environmental planning, **sustainable design and development**, sustainable range planning, real property planning and transportation planning...
 - National Defense Authorization Act 2014
 - ...consider for compact and in-fill development, horizontal and mixed use development, that considers the full **life-cycle costs of planning decisions** and capacity planning through use of growth zones
- 

Sustainable design and development calls for effective use of ENERGY as well as water, waste And storm water management

Sustainability/Energy Planning Master Planning Guidance DOD/Service

May 2012 UFC 2-100-01 Installation Master Planning

Sustainable Planning

- Natural and Cultural Resource Preservation
- Defensible Planning
- Healthy Community Planning
- Area Development Planning
- Network Planning
- Form-Based Planning
- Capacity Planning
- Facility Standardization
- Plan Based Programming

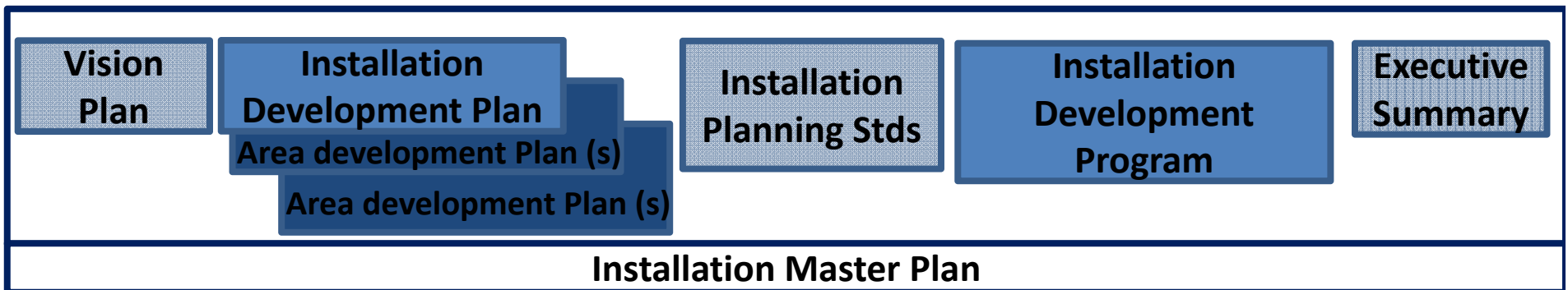
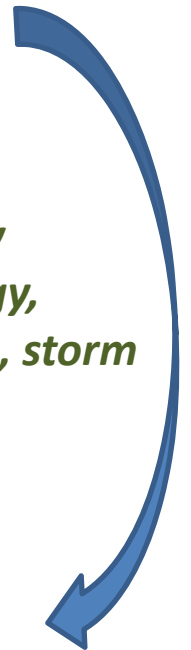
Sustainable Planning Principles

- Build more compactly
- Focus on infill development
- Use vertical and horizontal mixed use
- Plan for transit-oriented development
- Design with multi-story construction

Support energy-efficiency

Imbedded in the planning Process and reflected in products

What is the Quantifiable Sustainability Effects (energy, Water, waste, storm Water)?



Sustainability/Energy Planning Master Planning Guidance DOD/Service

May 2012 UFC 2-100-01 Installation Master Planning



Defines overall strategy for development including Energy considerations

Enables district Sustainable development solutions that include compact development, & network planning

Establishes building, site and network standards for the built environment.

Identifies energy investments that are defined from master planning process.

Summarizes Plan goals and objectives and Implementation actions.

Installation Energy Plans (IEP's) for DoD Installations

31 March 2016, the Office of the Assistant Secretary of Defense Memorandum

IEPs are to be an integral part of updating installation master plans to meet the requirements of Unified Facilities Criteria UFC 2-100-01, Installation Master Planning.

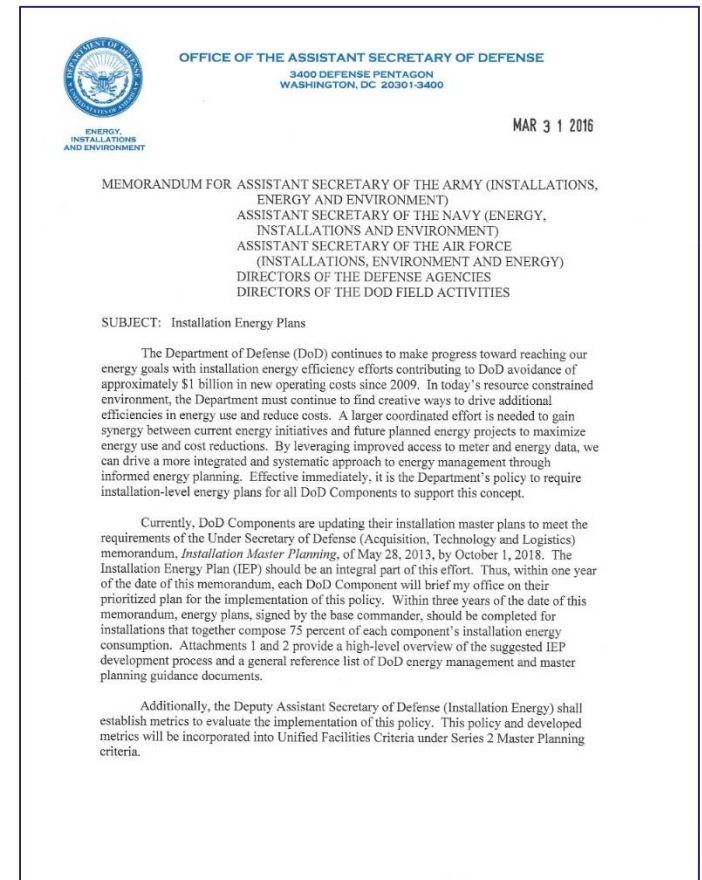
Developed in coordination with other installation plans

Identify NEPA requirements

Discussions of energy requirements, conservation potential, mitigation measures, and natural or depletable resource

UFC 2-100-04 Area Development Planning (Pre-Final Development)

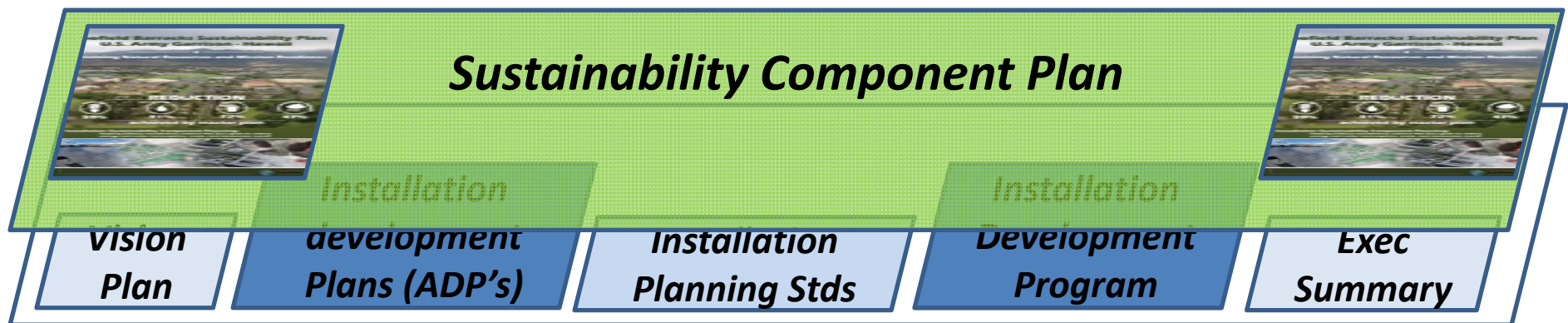
IEP identified as Stand-Alone planning product as the Master Planning Products



Sustainability Component Plan: Essential Planning Tool

The Sustainability Component Plan provide a roadmap that enables the installation to work constructively towards its goals in efficiency, resource use reduction, and resilience iaw with Master Plan

The Sustainability Component Plan processes use USACE developed planning tool NET ZERO PLANNER (NZIP) to virtually model installation development and quantify options to meet reductions in use of energy water, waste and storm water.



Installation Energy Plans: Take Aways

Comprehensive collaborative planning process ensures energy and water considerations are imbedded in base planning.

Installation Energy Plan(s) are extensions of current installation master planning practices, policies and guidance

Use of planning level modeling of impacts wonderful way to understanding impacts of potential decisions.

Master Planning Core-competencies, comprehensiveness and education and training essential

Installation Energy Plans:

BACKUP SLIDES

Sustainability Component Plans versus OSD IEP requirements

- ✓ Phase 1: Identify the team, tasks, deliverables, and goals.
- ✓ Phase 2: Establish baseline and future base case
- ✓ Phase 3: Establish alternative scenarios and analyze gaps
- ✓ Phase 4: Develop and sequence projects and activities
- ✓ Phase 5: Assemble review and finalize document
- ✓ Phase 6: Execution and maintenance of the Installation Energy Plan (allows iteration on the plan due to unforeseen circumstances)

- ✓ **NZP™ Tool directly supports.**
- ✓ **SCP process directly supports.**

Extra benefit

Addresses comprehensive planning approach of ENERGY, WATER, WASTE AND STORM WATER comprehensively iaw Master Planning process

Sustainability Component Plan Training

Master Planning Training Courses Developed (DOD Master Planning Institute/PROSPECT)

Course 258 Master Planning Energy and Sustainability addresses the SCP/IEP process in accordance with the Master Planning: next offering 13-16 March 2018 New Orleans LA

Course 163. Master Planning Sustainability and Resiliency Addresses how to use Modeling tools (NZP tool) to assess different Energy, water, and waste 24-26 April 2018, Champaign IL

***Contact: Registrar, USACE Learning Center
(256) 895-7425 / (256) 895-7422 / (256) 895-7437 / (256) 895-8086***

Tuition Based: Open to All Federal Employees, consultants, state and local employees, universities