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*SECRETARY OF THE AIR FORCE*

***AIR FORCE INSTRUCTION 32-7062***

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***Civil Engineering***

***COMPREHENSIVE PLANNING***

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This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 32-10, *Air Force Installations and Facilities*, by establishing the Air Force Comprehensive Planning Program for development of Air Force installations. It contains responsibilities and requirements for comprehensive planning and describes procedures for developing, implementing, and integrating an installation development plan (IDP) with activity management plans. This publication applies to all Active, Air Force Reserve Command (AFRC) and Air National Guard (ANG) units. Major Commands (MAJCOM), HQ AFRC, and ANG may supplement this guidance to revise roles and responsibilities for unit and headquarters functions and IDP approval processes; such direct supplements do not require coordination by the OPR for this publication prior to certification and approval. Additionally, ANG may supplement this guidance with regard to changes in IDP content; however, such direct supplements require coordination with the OPR prior to certification and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS) Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command.

*SUMMARY OF CHANGES*

This revision supersedes AFI 32-7062, 27 Jun 2013. The revised AFI specifies requirements for Comprehensive Planning at Air Force installations; redefines planning roles and responsibilities; provides requirements for the Installation Development Plan (IDP); identifies geospatial mission data sets for installation planning; specifies planning products; provides Sustainable Development Indicators (SDI); describes duties, qualifications and training to perform the installation planning function; and links installation planning to strategic basing and beddown planning.

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## Chapter 1

## BACKGROUND AND RESPONSIBILITIES

**1.1. Background.** This instruction provides guidance on implementing the Air Force Comprehensive Planning Program. It improves and integrates installation physical development with the investment planning process, legal requirements, and DoD/AF policies. The cross-functional teaming concept is a critical component in plan development.

**1.2. Responsibilities.** This instruction defines Headquarters United States Air Force (HAF), MAJCOM, Field Operating Agency (FOA), and installation-level development and management requirements and responsibilities for executing the Air Force Comprehensive Planning program.

1.2.1. **Secretary of the Air Force.**

1.2.1.1. **The Assistant Secretary of the Air Force for Installations, Environment and Logistics (SAF/IE).** Promulgates and oversees policy for the Air Force Comprehensive Planning Program, environmental planning, energy, real estate, housing, Base Realignment and Closure, strategic basing and all related civil engineer activities.

1.2.2. **Headquarters United States Air Force**.

1.2.2.1. **The Air Force Civil Engineer (AF/A4C).** Issues guidance, allocates resources, and oversees execution of comprehensive planning to support installations, infrastructure, and facilities.

1.2.2.1.1. **Strategic Plan Development.** Coordinates with SAF/IE, Deputy Chief of Staff, Operations, Plans and Requirements (AF/A3/5), Deputy Chief of Staff, Strategic Plans and Programs (AF/A8), and other organizations as appropriate to develop an AF/A4C CE Flight Plan consisting of CE goals and objectives in support of the AF Strategic Plan.

1.2.2.1.2. **Oversight and Management.** Develops specific implementation guidance for comprehensive planning. Formulates additional guidance and supporting materials, as necessary, to ensure that existing Air Force programs and requirements are addressed by the comprehensive planning process, along with additional subjects.

1.2.2.2. **The Air Force Civil Engineer Center (AFCEC).** AFCEC is the single, integrated Civil Engineer FOA. Responsibilities related to Comprehensive Planning are performed within AFCEC's Planning & Integration Division (AFCEC/CP), which has responsibility for both Comprehensive Planning and activity integration across the enterprise, to include the investment planning process. AFCEC/CP:

1.2.2.2.1. Blends strategic guidance from HAF; applicable requirements from MAJCOM Comprehensive Asset Management Plans (MCAMPs); information from planning, noise, encroachment, and Environmental Impact Analysis Process (EIAP) programs; with knowledge of available resources and other key factors to develop and enable feasible installation development plans and executable investment strategies.

1.2.2.2.1.1. Consolidates and publishes key objectives to be considered in the current planning cycle, and directs performance against these objectives to be assessed and reported within the IDP.

1.2.2.2.2. Provides a comprehensive planning framework to enable strategic and long-term planning for "installation complexes" in support of the Corporate Air Force and its wide-range of customers at the Combined, Joint, MAJCOM and Installation levels.

1.2.2.2.3. Provides guidance, processes, and procedures Air Force-wide ensuring standardization, efficiency, and economy of effort.

1.2.2.2.4. Provides guidance, support, tools, and analytical capability for use at the strategic, operational, and tactical levels to help ensure installation planning complies with all applicable legal requirements as well as DoD and Air Force policies.

1.2.2.2.5. Objectively measures progress and tracks data/trends to monitor progress against key objectives.

1.2.2.2.6. Ensures installations (through MAJCOMs) develop plans and programs to optimize capabilities, space, and the efficient use of resources.

1.2.2.2.7. Provide technical support and subject matter expertise to the installation comprehensive planning program for the development of the IDP and coordinates for the preparations of IDPs and plan refresh rates as necessary across the AF CE community.

1.2.3. **MAJCOMs.** Oversee installation level implementation of the comprehensive planning standards and procedures established in this instruction. Provide supplemental policy and guidance to support effective installation-level implementation. Review and approve new or substantially revised IDPs, as well as subsequent periodic IDP updates. MAJCOM Civil Engineers will perform the activities listed below:

1.2.3.1. Provide the AF/A4C Flight Plan to installation planners for use in the development of installation development plans.

1.2.3.2. Incorporate tenets of the AF Strategic Plan in the development of MAJCOM strategic weapons system basing and IDPs. Ensure installations develop and maintain consistent, uniform planning products to facilitate one-stop leadership information and oversight.

1.2.3.3. Provide guidance, planning management, and planning technical support to installations. MAJCOM Civil Engineers consults with a cross-functional team consisting of appropriate MAJCOM and FOA representatives to develop information for use in the Comprehensive Planning Program as it informs strategic basing and beddown actions.

1.2.3.4. Ensure installation comprehensive planning documents are completed, maintained, and implemented; and issue guidance to supplement this AFI, as needed.

1.2.3.5. Review and approve IDP and major IDP changes as defined in paragraph 4.3 of this Instruction to ensure they comply with applicable legal requirements, DoD and Air Force criteria and standards, and effectively support mission goals and objectives. MAJCOMs will develop MAJCOM specific guidance for the IDP approval process as necessary.

1.2.3.6. MAJCOM staff will participate in Investment Planning processes.

1.2.4. **Installation Commander.** The Installation Commander will ensure appropriate comprehensive planning documents are developed and maintained. (T-2). Additionally, the Installation Commander will:

1.2.4.1. Provide the mission and installation development vision to the Base Civil Engineer (BCE). (T-2).

1.2.4.2. Approve the installation's BCAMP. (T-2).

1.2.4.3. Annually validate the IDP. (T-2).

1.2.4.4. Approve integrated priority lists (IPL). (T-2).

1.2.4.5. Chair the Facilities Board (FB), which, IAW AFI 32-1010, *The Facilities Board will:*

1.2.4.5.1. Review and approve the vision, goals, objectives, and component plans within the IDP. (T-2).

1.2.4.5.2. Review, set priorities for, and approve all long and short range facility investment plans. (T-2).

1.2.4.5.3. Approve all facility actions and ensure that facility location and design comply with sustainable concepts and the IDP. (T-2).

1.2.5. **BCE.** The BCE will develop, maintain and implement the installation Comprehensive Planning documents. (T-2). The BCE will:

1.2.5.1. Ensure that the IDP is prepared, maintained, and implemented for the installation. (T-2)

1.2.5.2. Ensure that qualified personnel are available to develop and maintain the IDP. (T-2). The Position Classification Standards for Community Planner Series (0020) should be used.

1.2.5.3. Establish a cross-functional team consisting of major installation organizations and critical stakeholders necessary to develop, maintain, and implement the IDP. (T-2). The BCE, or his or her delegate, will lead this team which meets on a recurring basis as deemed necessary to execute the program. (T-2).

1.2.5.4. Collect, interpret, integrate and present the vision of the Installation Commander and other senior installation leadership for mission requirements and installation development. (T-2).

1.2.6. **Base Community Planner (BCP).** The BCP manages the installation comprehensive planning process.

1.2.6.1. **Installation Development Plan.** The BCP will facilitate the development and maintenance of the IDP and related products. (T-2).

1.2.6.2. **Installation Siting Process Management.** The BCP will perform all actions related to siting, including but not limited to site analysis, development of siting documentation packages, and presentation for FB approval. (T-2).

1.2.6.3. **Area Development Plans (ADP).** The BCP will develop ADPs for all applicable areas on an installation, and integrates ADPs into the IDP. (T-2). When external support is required to develop these documents, the BCP will coordinate AFCEC support or manage contractor support as required, to include requirements identification and programming, statement of work development, and funding coordination. (T-2).

1.2.6.4. **Off-Base Planning Coordination.** The BCP will act as the main point of contact for off-base local and regional land use planning and zoning activities, unless this role is specifically assigned to another office. (T-2). Within this role, the BCP coordinates with the Installation Commander, Public Affairs and Staff Judge Advocate offices, as needed, to promote positive base and community relationships.

1.2.6.5. **Airfield Obstructions Management.** The BCP will manage for the Airfield Waiver Program in accordance with (IAW) UFC 3-260-01, *Airfield and Heliport Planning and Design*. (T-2).

1.2.6.6. **Asset Management Integration.** The BCP will convey the installation strategic vision, goals, objectives and the IDP Capital Improvements Plan (CIP) for consideration during the investment planning process by participating in Activity Management Plan (AMP) and BCAMP development. (T-2). Within this role, the BCP both will ensure that planning activities integrate requirements identified during the development of AMPs and the BCAMP, and will inform the investment planning process by ensuring identified requirements align with the IDP. (T-2).

1.2.6.7. **New Mission Beddown Planning.** The BCP will provide planning support to the MAJCOM and installation basing and beddown team. (T-2).

1.2.6.8. **Project Review.** The BCP will participate in design review and other activities related to siting and planning actions including the management of planning contracts. (T-2).

1.2.6.9. **Technical Expertise.** The BCP will provide technical advice on a variety of planning issues and special studies including planning-related GeoBase Data Layers. (T-2).

1.2.6.10. **Environmental Impact Analysis.** The BCP will coordinate with the local Environmental Planning Function (EPF) to ensure projects and major actions identified in the IDP are assessed using the Air Force EIAP. (T-2).

1.2.6.11. **Programming.** The BCP will coordinate with programming staff to identify planning requirements for the physical development of the installation, and to ensure projects in the IDP are programmed and aligned with the IPL. (T-2).

## Chapter 2

## AIR FORCE COMPREHENSIVE PLANNING

**2.1. Purpose.** Comprehensive Planning establishes a systematic framework for informing decision-making on the physical development of Air Force installations and their environs. It provides an integrated context and advocacy for the multiple Air Force processes that support and sustain current and future missions. It relies on active Air Force stakeholder participation in the development of a sustainable plan and promotes compliance with applicable federal, state, and local laws, regulations, and policies.

**2.2. Comprehensive Planning Foundations.** The following concepts should be applied when conducting Comprehensive Planning:

2.2.1. **Planning Districts (PD).** Installations are divided into identifiable PDs based on geographical features, land use patterns, building types, and/or transportation networks (Community Center, Airfield, Warehousing, etc.).

2.2.2. **Sustainable Planning.** The concepts and principles of sustainable planning are incorporated into all installation development planning and infrastructure projects. The goal is to satisfy mission requirements while maintaining a safe, healthy, and high quality environment for current and future generations. Key principles of sustainable planning include:

2.2.2.1. **Compact Development.** Installations work to conserve land resources. This can be achieved through compact development patterns that support an appropriate mix of uses, encourage walking and other alternative modes of transportation, accommodate appropriate residential and commercial densities, and incorporate a more integrated grid network of streets and sidewalks. Installations may have to reconfigure current land use patterns and transportation systems within their developed areas to create opportunities for future development. Compact development patterns may include multi-story buildings, greater densities, mixed-uses, and minimal spacing between buildings while maintaining consideration of Antiterrorism/Force Protection (AT) requirements, Air Installation Compatible Use Zone (AICUZ) impacts, and other constraints.

2.2.2.2. **Infill Development.** To conserve limited land resources, planners, to the maximum extent possible, plan development within the installation core (existing cantonment area) and on previously developed land. Planners should place buildings in gaps between existing developed areas and buildings. Such infill development results in greater density at the core of the installation and supports more integrated land use and transportation networks. Removal/replacement of aging low-density development with higher density development may also be appropriate.

2.2.2.3. **Mixed-Uses.** To make compact development feasible, compatible uses should be integrated into horizontal and vertical mixed-use development. Incompatible land uses are appropriately segregated.

2.2.2.4. **Transportation Networks.** Ensure that uses within each district as well as the districts themselves are connected via a network of streets and pedestrian pathways based on modified grid patterns that afford route options for motor vehicles, bicycles, and pedestrians.

2.2.2.5. **Landscape Development.** Integrate regionally-appropriate native or indigenous vegetation and inert materials across the installation to conserve water resources, control erosion, increase aesthetics, reduce heat island effects, utilize storm water, and mitigate antiterrorism concerns where practical. Effectively incorporate landscape materials to improve the human experience through increased recreational opportunities and encouraging walking and bicycle use while mitigating impacts to air quality and facility energy consumption.

2.2.2.6. **Low Impact Development.** Use on-site natural features to control storm water runoff quantity and quality in lieu of traditional "end-of-pipe" solutions. Implement engineered small-scale hydrologic controls to replicate the pre-development hydrologic regime of watersheds through infiltrating, filtering, storing, evaporating, and detaining runoff close to its source.

2.2.2.7. **Energy Efficiency.** Include opportunities for production of renewable energy and use of nuclear energy, improvement of energy security, energy conservation, and enhancement of energy efficiency. Identified opportunities should reduce dependence on energy from outside sources and enhance energy security.

2.2.2.8. **Natural & Cultural Resource Conservation.** Consider installation cultural and natural resources to ensure protection of these resources, including appropriate information and maps from the Integrated Natural Resources Management Plan (INRMP) and the Integrated Cultural Resources Management Plan (ICRMP). Consultation and the development of enduring relationships with cultural entities is a significant component of cultural resource stewardship.

2.2.2.9. **Antiterrorism (AT).** Planning incorporates provisions for AT per UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*.

**2.3. The Environmental Impact Analysis Process.** Planners shall alert the EIAP Program Manager as early in the planning process as possible to initiate requirements of the National Environmental Policy Act (NEPA). Planning activities must integrate the NEPA processes to ensure that planning and decisions reflect environmental values, identify alternatives considered, document which alternatives would be carried forward for full analysis including the rationale for those dismissed and to avoid delays later in the process avoiding potential conflicts. Additionally, EIAP supports the formulation of strategies to avoid or mitigate adverse environmental impacts. Planners can better implement the IDP by reaching out to stakeholders and decision makers associated with the environmental analysis process.

## Chapter 3

## THE COMPREHENSIVE PLANNING PROCESS

**3.1. Objective.** The objective of the Comprehensive Planning Process (CPP) is to synthesize data and information to enable commanders to make effective development decisions affecting their installation and the surrounding community. CPP is a multidisciplinary process involving all stakeholders associated with management, use and development of Air Force lands, facilities, and resources. CPP includes analysis of the installation's development capability to perform current, programmed, and potential future missions. The summary product of the CPP is the IDP. The IDP provides a developmental path forward that incorporates known and projected mission requirements, developmental constraints and opportunities, and recommended courses of action to achieve optimal use of lands, facilities, and resources in support of installation performance. The IDP also synthesizes the results of relevant studies, analyses, and functional plans prepared by members of the cross-functional planning team.

**3.2. Process steps.** The CPP takes place at all levels and includes five main steps:

3.2.1. **Identification.** The installation mission is the most important element affecting the future direction of base development. Assigned missions dictate functional requirements and the physical layout of the installation. Planners need to understand the mission and its effect on land, facilities, built and natural infrastructure, and the way of life of the installation community. Within the Identification step, the BCP identifies shortfalls in the existing capability, capacity, or relationship of installation resources with respect to their contribution to successful accomplishment of installation missions.

3.2.2. **Evaluation.** The BCP assesses the information collected in the first step, and relate it to relevant installation development opportunities and constraints. The evaluation process also further quantifies the deficiencies highlighted in the Identification step.

3.2.3. **Development.** IDP development occurs when preliminary (mission, installation, environmental, etc.) and projected (future mission plans, off base encroachment projection models, vegetation growth, etc.) information is collected, assessed, and development alternatives are shaped. Plan development is "top down" with the IDP prepared first, then area development plans, then site specific plans.

3.2.4. **Implementation.** IDP implementation is accomplished through improvement projects. The plan identifies projects necessary to meet mission requirements and execute the plan's vision, goals and objectives. These projects become the foundation for the installation Capital Improvements Plan (CIP). Funding constraints typically inhibit simultaneous funding of all projects in the CIP. This fosters long-range, deliberate, capital investment decision making. An installation's physical development evolves at a pace necessary to meet mission needs; yet accommodates responses to short-term problems such as swing space for renovations or construction project completion.

3.2.5. **Maintenance.** After an IDP is developed and approved, it should remain useful, current, and relevant to the installation's mission. This is achieved during annual review and validation or when major development changes are proposed. U.S. national security and defense reviews may impact military posture, force structure, and installation configuration,

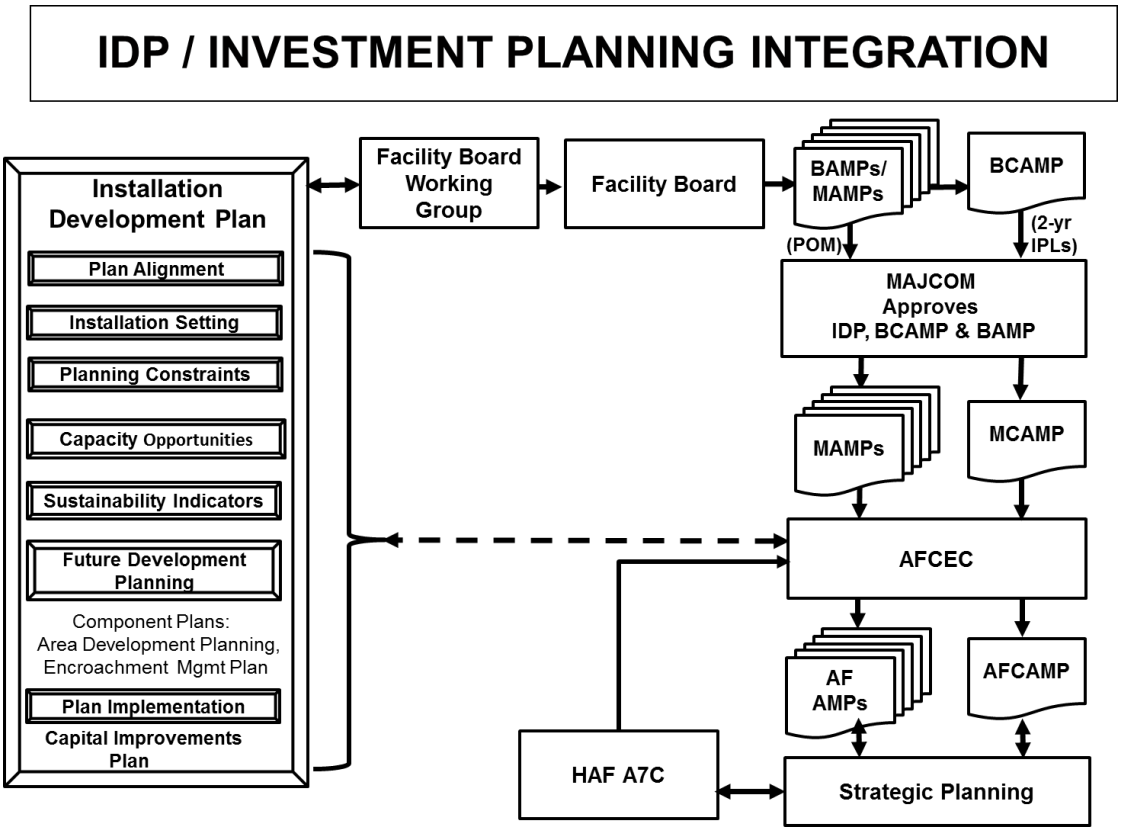
and any of these strategic drivers can impact installation requirements. Comprehensive planning is a continuous process.

**3.3. Relationship to Other Major Processes.** Comprehensive Planning is an integral element in resource allocation (such as strategic basing, requirements, acquisition, programming, environmental and budgeting). The CPP requires data from other processes as inputs. Likewise, outputs from the CPP are used as process inputs elsewhere in informing leadership on planning actions and resource allocation. The following are basic processes and process outputs integral to comprehensive planning, but do not represent an all-inclusive list:

3.3.1. **Component Plans.** The comprehensive planning process evaluates and balances a spectrum of issues: environmental, land use, operational, engineering, transportation, safety, security, design, and quality of life that determine the installation's future physical development. These issues are addressed in component plans, studies, databases, documents, and graphics required to be prepared and maintained by the BCP and other functional experts. Examples include *Air Installation Compatible Use Zone Study, Integrated Natural Resources Management Plan, Housing Community Profile, Privatized Housing Initial Development Plans, Dormitory Master Plans, Integrated Cultural Resources Management Plan, Architectural Compatibility Plan, Encroachment Action Plan, Investment Planning (AMPs, BCAMPs),* and *Traffic Engineering Studies*. Elements of component plans and special studies are generally used in preparing the IDP. All of these component plans and special studies may not be appropriate or desirable for all installations. Other specialized component plans or special studies may also be desirable and necessary. When relevant, all of the cited plans, and others as appropriate, are evaluated with respect to the IDP. Planned resource stewardship actions, opportunities and constraints within each program are evaluated with respect to the others to identify potential impacts on future development.

3.3.2. **Investment Planning.** The CIP identifies development actions needed to support current and projected mission activities. As the Investment Planning process proceeds from the longer-range Program Objective Memorandum view, to the budget cycle, and finally to current-year execution, changes in anticipated and actual resource allocation can impact the IDP when proposed projects are or are not funded in the years where need has been identified. These changes, in addition to the insertion of unanticipated requirements resulting from near-term mission changes and/or other legislation or regulatory change, can drive changes in proposed project scope or timing. Consequently, the IDP is evaluated in terms of these factors, and the investment plan may in turn need to be revised to reflect changing priorities and fiscal constraints. Figure 3.1 below reflects the interaction of the Comprehensive Planning and Investment Planning processes.

**Figure 3.1. IDP/Investment Planning Integration.**




3.3.3. **Environmental Impact Analysis Process (EIAP).** The Air Force has established the EIAP to ensure the potential environmental impacts of Air Force actions are considered and inform decision-making processes. Planners coordinate with the installation EPF for analysis of planning proposals for environmental effects. The two key elements in the EIAP are (1) early identification of proposed actions and (2) completion of the entire EIAP process before decisions are made. EIAP embodies the goals and objectives of the NEPA process with emphasis on environmental awareness, sustainable development, historic preservation and protection of archeological and natural resources. The proponent is responsible for initiating the AF Form 813 by completing Section 1 and submitting it to the EPF. The EPF conducts the EIAP for projects within its capacity. For EIAP actions that exceed installation capacity, the AFCEC NEPA Center of Excellence serves as the EPF. For overseas installations, DODD 6050.7, *Environmental Effects Abroad of Major Department of Defense Actions*, and 32 CFR §989, Part 187 apply.

3.3.4. **Encroachment Management.** Encroachment is any deliberate action by any governmental or non-governmental entity or individual that does, or is likely to, inhibit, curtail, or impede current or future military activities within the installation complex or mission footprint; or deliberate military activity that is, or is likely to be, incompatible with the community's use of its resources and reasonable quality of life. Identified encroachment requires evaluation in terms of how it impacts current installation layout and operation, and constrains future development. Proposed military and community development actions are evaluated with respect to how the development mitigates or conflicts with known or projected encroachment. IDPs consider encroachment with regard to recommended planning

actions to ensure proposed development actions are consistent with encroachment prevention objectives.

3.3.5. **Explosive Safety.** Proposed facilities that are intended for the storage, maintenance, processing, and handling of explosives, to include facilities and roadways to be constructed within explosives safety clear zones as defined in AFMAN 91-201, *Explosives Safety Standards*, require special siting. These facilities require approval from the appropriate Air Force and DOD level before expending funds on any construction activity. Proposed development actions require evaluation to ensure they do not conflict with existing or planned explosives-related facilities and their required separation distances.

3.3.6. **Infrastructure Planning.** Address all infrastructure systems (to include utility delivery and conveyance systems and all base pavements to include roadways, taxiways, and runways) and infrastructure investments to provide an overview of the state of these systems throughout the installation. Emphasis is placed on capacity analysis, systems details, age, location, and condition of facilities, and location of facilities with a clear and understandable graphic presentation. This macro view of these detailed engineering infrastructure systems provides the decision-maker with the information necessary to clearly comprehend the linkages between these critical engineering systems and the capability to support development identified in the other component plans. Infrastructure planning should also addresses communications systems and navigational aids as they affect development opportunities.

3.3.7. **Interagency Planning Coordination.** Many Federal, State, regional, and local agencies have established planning processes that would benefit from Air Force participation, and whose input would in turn benefit Air Force installation planning. Planning issues arising from encroachment, noise, population growth and transportation are examples of the need for direct Air Force participation in external planning processes. It is important that Air Force installations develop reciprocal planning relationships that help ensure such discussions on a continuing basis. A proactive inter-governmental planning process provides an integrative planning framework that can respond to both Air Force mission requirements and local planning actions. Air Force representatives attending local, state, and regional planning groups should contact their Public Affairs and Staff Judge Advocate offices for consultation prior to commenting on official Air Force positions regarding projects occurring outside of the installation complex or mission footprint.

3.3.8. **Installation Emergency Management Plan (IEMP) coordination.** AFI 10-2501, *Air Force Emergency Management Program*, describes the Installation Emergency Management Planning process. The IEMP provides comprehensive guidance for emergency response to physical threats resulting from major accidents, natural disasters, severe weather events, conventional attacks, terrorist attacks, or Chemical/Biological/Radiological/Nuclear attacks. It is important for the BCP to maintain situational awareness of and coordinate on the IEMP.

## Chapter 4

## COMPREHENSIVE PLANNING REQUIREMENTS

**4.1. The Installation Development Plan Format.** The IDP summarizes the results of the Air Force Comprehensive Planning Process at a given point in time. It provides the strategic goals and supporting geospatial and written information to advocate for resources through project programming, evaluate energy initiatives, provide documentation on encroachment issues on and off the installation, promote airfield safety, and enhance the general health and welfare of the natural and built environment. The BCP will ensure the IDP contains, at a minimum, the following sections: (T-2).

**1. Commander's Cover Letter.**

**2. Table of Contents**

**3. Executive Summary (summarizing elements 4-10).**

**4. Strategic Vision Alignment.**

a. DOD.

b. AF.

c. A4C.

d. MAJCOM.

e. Installation.

**5. Installation Setting (Installation & Regional).**

**6. Planning Constraints (operational, natural and built constraints to development).**

**7. Installation Capacity Opportunities.**

7.1. Mission Operations.

7.2. Built Infrastructure.

7.2.1. Existing Land Use.

7.3. Mission Support.

7.4. Quality of Life.

**8. Sustainability Development Indicators (See Attachment 3).**

8.1. Air Quality.

8.2. Energy Use.

8.3. Water (Quality and Quantity).

8.4. Encroachment.

8.5. Land Utilization.

8.6. Waste Reduction-Non HAZ.

8.7. Renewable Energy.

8.8. Space Optimization.

8.9. Natural/Cultural Resources.

8.10. Climatic Vulnerability.

**9. Future Development Planning.**

9.1. Future Land Use Plan.

9.1.1. Planning Districts.

9.1.1.1. Area Development Plans.

9.2. Future Transportation Plan.

9.3. Future Alternative Scenarios.

**10. Plan Implementation.**

10.1. Short Range Development Plan (1-5 years).

10.1.1. Plan Achievement Matrix.

10.2. Medium Range Development Plan (6 to 10 years).

10.3. Long Range Development Plan (11-20 years).

10.4. Installation Development Map (color coded by development timeframe).

**4.2. Planning Products.** The IDP is web-based.

**4.3. Plan Updating & Approval.** The BCP will ensure the IDP is reviewed and updated annually, or as needed if conditions change before the annual review. (T-2). The BCP will ensure the IDP is briefed to the installation Facilities Board and endorsed by the Wing Commander annually. (T-2). The BCP will forward all major changes to the IDP from the installation to the MAJCOM before the IDP can be revised. (T-2). (Major changes are defined as the insertion or deletion of a Military Construction (MILCON) requirement within the Future Years Defense Plan (FYDP), re-siting of a MILCON project, or other threshold event as defined in MAJCOM supplemental guidance.) The BCP will ensure new IDPs and major changes to existing IDPs are briefed to the MAJCOM as part of a Base-to-Command briefing, or forwarded for approval by the MAJCOM or as delegated not later than 30 April of each calendar year. (T-2). MAJCOM will develop MAJCOM specific guidance for the IDP approval process.

**4.4. Plan Evaluation.** The aggregate effect of the projects proposed in the IDP should be evaluated with respect to how the projects enable progress toward the objectives established in Federal, Defense, Air Force, MAJCOM and installation policy and guidance in Chapter 2. The Sustainability Development Indicators (SDI) provided in Attachment 3 illustrate many installation performance measures that can help the BCP identify and quantify this progress, as well as the source of the data. With this information, the BCP will then include a Plan Achievement Matrix in the IDP, explicitly identifying the plan's contribution to progress against key objectives as defined by AFCEC. (T-2).

**4.5. Plan Maintenance.** Routine updates and maintenance of the IDP are the responsibility of the BCP. Resourcing for significant studies or component plan development outside the capability of the BCP is programmed and funded by the BCE. When the need for specific studies or analyses is driven by a new weapon system beddown or by a mission change for a tenant organization, the weapon system or tenant chain of command may need to program for and fund the requirement.

## Chapter 5

## GEOSPATIAL MAPPING

**5.1. Definition.** Geospatial Mapping is the spatial data component of comprehensive planning, and refers to the compilation and consolidation of spatial data to create maps to support planning decisions. AFI 32-10112, *Installation Geospatial Information and Services,* defines the mapping requirements for the common installation picture and the data layers. Spatial data collected and created while doing comprehensive planning requires adherence to the specified common standards.

**5.2. Data Layers (DL).** DLs are necessary in order to perform analysis of development constraints and opportunities across the installation and within PDs. Data for current and proposed mission requirements are used to establish limitations and conditions affecting an installation's capabilities to execute mission support.

5.2.1. **Origination.** Many DLs necessary for comprehensive planning are created by multiple external agencies. The comprehensive planning process and the IDP integrate and analyze these data layers to build situational awareness of the installation and its regional setting. Attachment 2 lists the basic DLs required for preparing the IDP.

5.2.2. **Data Maintenance.** Data stewards will review DLs on no less than an annual basis, and revise when necessary. (T-2). Data stewards will coordinate DL updates with their Geo-Integration Office. (T-2)

**5.3. Information Security.** To address information security concerns, installation security managers will review the IDP for suitability for public release. (T-2). The IDP is intended to be releasable to outside contractors and other external agencies as required to facilitate planning, coordination, mutual aid, and future construction. DLs deemed to be classified at the SECRET level or higher should not be included in the IDP. Access to DLs classified as For Official Use Only (FOUO) or Sensitive but Unclassified should be restricted to individuals having appropriate need to know. Installation security managers have the authority to withhold the release of any information, as the situation dictates.

## Chapter 6

## QUALIFICATIONS, TRAINING AND PROFESSIONAL DEVELOPMENT

**6.1. Qualifications.** The BCP position requires knowledge, skills, and abilities in the practice of comprehensive planning and successful completion of a full 4-year course of study from an accredited college or university leading to a bachelor's or higher degree in a major appropriate to the community planning field. The Air Force Personnel Center (AFPC) will ensure that qualified personnel are appointed as BCPs, as well as adherence to all of the Office of Personnel Management standards for this profession. (T-1). Commanders will ensure these qualified personnel perform the installation comprehensive planning function. (T-2)

**6.2. Training.**

6.2.1. **Installation Development Plan Training.** Upon initial appointment, BCPs shall be scheduled to attend the next available offering of the Air Force Institute of Technology (AFIT) educational course Comprehensive Planning Development (WENG-520). (T-2)

6.2.2. **Continuing Education.** BCPs are strongly encouraged to attend related AFIT courses as a part of a formal Individual Development Plan. Suggested AFIT coursework in asset management and sustainability, such as WMGT 101, WMGT 416, WMGT 420, WENV 450, and WMGT 580 is highly recommended.

6.2.3. **Training Plan.** Proficiency in the practice of comprehensive planning is vital to representing Air Force interests before community and regional agencies. BCPs work with supervisors to develop and implement training plans to maintain proficiency in the tactics, techniques and procedures of contemporary comprehensive planning. The training plan should indicate continuing education opportunities to include workshops, seminars and courses conducted by DOD, Air Force, national, regional, or state associations, educational institutions, or other organizations affiliated with city/comprehensive planning. BCP proficiency training includes the recurring Air Force Planners Training Workshop conducted by AFCEC. The Training Plan may also incorporate cross-training and broadening experiences such as participation in the Assistance Team program.

JOHN B. COOPER
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DCS/Logistics, Engineering & Force Protection

## Attachment 1

## GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Utility Systems Planning Bulletin

Transportation Planning Bulletin

Comprehensive Planning Approach and Process

Comprehensive Planning Data Sources and Applications

Long Range Facilities Development Planning Bulletin

Quality of Life Planning Bulletin

Fire Protection Planning Bulletin

Landscape Planning and Design Bulletin

Area Development Planning Bulletin

AFCEC Web Site- Planning Primer

Comprehensive Planning Playbook

EIAP Playbook

Airfield Obstructions Playbook

Siting Playbook

***Adopted Form***

AF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**ADP**—Area Development Plan

**AF/A4C**—The Air Force Civil Engineer

**AF/A4CI**—Air Force Installations Division

**AFI**—Air Force Instruction

**AFCEC**—Air Force Civil Engineer Center

**AFIT**—Air Force Institute of Technology

**AFMAN**—Air Force Manual

**AFPD**—Air Force Policy Directive

**AFRC**—Air Force Reserve Command

**AICUZ**—Air Installations Compatible Use Zones

**AMP**—Activity Management Plan

**ANG**—Air National Guard

**AT**—Assistance Team (formerly Planning Assistance Team)

**AT**—Antiterrorism/Force Protection (formerly AT/FP)

**BCAMP**—Base Comprehensive Asset Management Plan

**BCE**—Base Civil Engineer

**BCP**—Base Community Planner

**CIP**—Capital Improvement Plan

**CIP**—Common Installation Picture

**DL**—Data Layer

**DOD**—Department of Defense

**DODI**—Department of Defense Instruction

**EIAP**—Environmental Impact Analysis Process

**EPF**—Environmental Planning Function

**FB**—Facilities Board

**FOA**—Field Operating Agency

**GIS**—Geographic Information System

**HAF**—Headquarters United States Air Force

**ICRMP**—Integrated Cultural Resources Management Plan

**IDP**—Installation Development Plan

**INRMP**—Integrated Natural Resources Management Plan

**LEED**—Leadership in Energy and Environmental Design

**LID**—Low-Impact Development

**MAJCOMs**—Major Commands

**MCAMP**—MAJCOM Comprehensive Asset Management Plan

**MDS**—Mission Data Sets

**MILCON**—Military Construction

**MOU**—Memorandum of Understanding

**NEPA**—National Environmental Policy Act

**OMB**—Office of Management and Budget

**OSD**—Office of the Secretary of Defense

**PD**—Planning District

**SAF/IE**—Assistant Secretary of the Air Force (Installations, Environment, and Logistics)

**SAF/IEI**—Deputy Assistant Secretary of the Air Force for Installations

**UFC**—Unified Facilities Criteria

**U.S.C.**—United States Code

**VMT**—Vehicle Miles of Travel

***Terms***

**Area Development Plan**—This plan elaborates on the proposed development of a specific area. It illustrates the functional as well as physical and human aspects of areas to be developed. This plan may be short range but could show proposed long-range (10-15 yr.) physical changes. It generally includes roadways, pedestrian paths, parking, utility alignments, landscaping, cost and schedule information, etc. Common applications are the community center, flight line, administration complexes, etc.

**Air Installation Compatible Use Zone**—This program is designed to assist local, regional, state, and federal officials in protecting and promoting the public health, safety, and welfare by promoting compatible development within the AICUZ area of influence. The AICUZ program also protects Air Force operational capability from the effects of land use which are incompatible with aircraft operations.

**Activity Management Plan**—A plan developed for an activity that uses multi-disciplinary management techniques (including financial, engineering, planning, programming, environmental, IT, risk management, and administration) over the lifecycles of the assets (when built assets are involved) and applies them, in the most cost effective manner, to achieve specified Air Force levels of service.

**Asset Management**—A structured approach to managing Air Force assets based on business case principles standardizing levels of service and balancing cost, risk, and benefits to maximize the value of assets to the Air Force mission.

**Base-to-Command Briefing**—Refers to management oversight procedure and protocols for MAJCOMs to review and approve installation planning programs and products to include the Installation Development Plan.

**Capital Improvements Plan**—Integrates all the primary elements of traditional physical planning, current land use, vicinity land use, existing base layout and facilities, existing transportation systems, and each of the corresponding future plans into one document. Land use and transportation significantly influence development of the *CIP*. The *CIP* identifies in more detail the physical location of projects approved for funding or programmed for funding. The *CIP* integrates MILCON; Operations and Maintenance (O&M); Military Family Housing (MFH); Non-Appropriated Funds (NAF); Morale, Welfare, and Recreation (MWR) programs; industrially-funded depot maintenance; and other source-funded projects that significantly affect facilities and land development. All CIP projects should reflect in their appropriate AMP, but only key development projects should be included in the CIP.

**Component Plan**—A separate plan or special study required by other Air Force programs focusing on functional areas that support the Installation Development Plan and the overall comprehensive planning effort. Preparation of Component Plans is not specifically required by this instruction. Component Plan information is incorporated into the Installation Development Plan at an appropriate level of detail.

**Comprehensive Planning Process**—The ongoing, iterative, participatory process addressing the full range of issues affecting or affected by an installation's development. Through this process, goals and objectives are defined, issues are identified, information is gathered, alternative solutions are developed, and a sound decision-making process is employed to select a preferred alternative for implementation.

**Current Planning**—This phase covers active construction programs, extending approximately one year into the future. This phase can be viewed as the implementation phase, where the Long-Range and Short-Range Plans are translated into physical development. While the information will be the most detailed available, the opportunity to accommodate changes becomes limited and potentially costly.

**Data Set**—A defined, documented, and approved set of Data Layers which can be used in conjunction with separately maintained business data to complete a recurring task or mission. A Mission Data Set is created in order to provide a standardized data model and consistent process for mapping and analysis. The Data Layers within a Mission Data Set can be obtained from across multiple, different functional groupings. The Data Layers within a Mission Data Set are selected based on relevance to a specific mission. Each Mission Data Set will address potential conflicts arising from the interaction of the composite Data Layers, to include topology, symbology and vocabulary. An example of a Mission Data Set is the Common Installation Picture (CIP).

**Digital Electronic Data and Systems**—Examples include Geographic Information Systems (GIS), Computer Aided Design and Drafting (CADD), Automated Facility Mapping (AF/FM), Computer Aided Facility Management (CAFM), Multimedia (MM), databases, spreadsheets,

graphic interfaces, and other distributed multimedia systems such as the Internet and World Wide Web (WWW). These tools are used in managing, manipulating, and maintaining comprehensive planning information.

**Encroachment**—Any deliberate action by any governmental or non-governmental entity or individual that does, or is likely to, inhibit, curtail, or impede current or future military activities within the Installation Complex or Mission Footprint,; or deliberate military activity that is, or is likely to be, incompatible with the community's use of its resources and reasonable quality of life.

**Environmental Impact Analysis Process (EIAP)**— The process required by the National Environmental Policy Act of 1969 (NEPA); the implementing regulations of the President's Council on Environmental Quality (CEQ) in 40 CFR Parts 1500 - 1508; and Air Force implementing regulations contained in 32 CFR Part 989. The NEPA established the CEQ and a national policy designed to encourage consideration of the influences of human activities (e.g., population growth, high-density urbanization, industrial development) on the natural environment. The CEQ implementing regulations established procedures requiring, among other things, that environmental information about major federal actions with the potential to significantly impact the environment be made available to the public before decisions are made and that federal agencies promulgate their own regulations to ensure those procedures are followed. The Air Force EIAP regulations establish the procedural framework to implement the legal requirements of NEPA and the CEQ's implementing regulations. In short, EIAP ensures that impacts of proposed Air Force actions are analyzed and considered in the decision-making process, and before any final decision or irretrievable commitment of resources is made.

**Installation Complex**—The land, facilities, airspace, and ranges providing direct mission support to and/or are managed by the installation. This includes a combination of land and facilities comprised of a main installation and its noncontiguous properties (auxiliary air fields, annexes, and missile fields) that provide direct support to, or are supported by, that installation. Installation complexes may comprise two or more properties, e.g., a major installation, a minor installation, or a support site, each with its associated annex(es) or support property(ies).

**Installation Development Plan**—The document that provides the installation commander and other decision-makers a condensed picture of an installation's capability to support the mission with its physical assets and delivery systems. It is a general assessment of the installation's infrastructure and attributes for the purpose of gauging development potential.

**Integrated Priority List**—A list of requirements falling within a specific funding category, and prioritized within each fiscal year.

**Investment Planning**—The process of using AF strategic drivers, AF mission objectives/needs and installation requirements along with defined levels of service to develop requirements across the FYDP+2 that informs the POM; and to develop and prioritize projects/opportunities for implementation in the CY+1 budget.

**Long-Range Planning**—The planning phase that offers the widest view and the broadest level of detail. This planning phase typically covers a period extending to 20 years in the future. It is the most dynamic phase where the greatest amount of change can be introduced and absorbed with the least expense. Long-Range planning is accomplished through requirements analysis, and the development of future land use and transportation plans.

**Map**—A graphic representation, usually on a plane surface, and at an established scale, of natural or built features on the earth surface, that generally encompasses the installation, surrounding area, and region. The features are positioned relative to a coordinate reference system. Maps in most cases will be computer generated. Maps support the Installation Development Plan, Component Plans, Special Plans and Studies.

**Mission Footprint**—The installation complex plus any land, facilities, airspace, or ranges that are not managed by the installation, but provide direct, routine support to the mission.

**Plan Achievement Matrix**—A summary table or spreadsheet showing CIP-proposed projects aligned with major planning objectives provided within HAF, MAJCOM, and Installation vision and guidance materials.

**Planning District**—A subdivision of an installation, greater in scope than an Area Development Plan, discerned by defining characteristics such as geography, mission, land use, building types, that entail a unifying theme for focused analysis on mission, command priorities, and facility requirements.

**Short-Range Planning**—The planning phase which coincides with the lead time for facility construction programs, generally extending 5 years into the future. It is at this phase that planning decisions are integrated with the appropriate construction and funding programs.

**Site Plan**—A site plan is a detailed plan for a specific project. It shows the relevant natural and built features of the site, including precise locations of buildings, parking areas, driveways, landscaping, fencing, walkways, signs, lights, etc. The site plan is a graphic representation of exactly what a site would look like when complete. Site plans are usually completed in a pre-construction design phase.

**Special Plans and Studies**—A source of planning information on a functional area required by a specific Air Force program. Examples include Housing Community Profiles, Integrated Natural Resources Management Plans, Air Quality Studies, and Transportation Studies.

**Sustainable Installation**—An installation that efficiently supports current operations with minimal impact on the built and natural environments without compromising the ability to meet future mission requirements.

## Attachment 2

## GEOSPATIAL VISUALIZATION

**A2.1. Intent.** The Installation Development Plan aligns geospatial information from a wide variety of sources in order to depict the installation as it currently exists, define constraints and opportunities, and illustrate future development plans.

A2.1.1. The following table highlights the majority of geospatial Mission Data Sets and Data Layers that are central to installation planning efforts. Refer to the Comprehensive Planning Playbook for current definition of relevant planning-related data. Installation planners may identify other information that is relevant and required to fully define the situation at their bases, and should coordinate with the responsible data steward for access to current versions of that information.

A2.1.2. Various communities continue to expand their geospatial data libraries, and to define standards for the representation of their geospatial data layers. Refer to the appropriate Geo-Integration Office or AFI 32-10112, *Installation Geospatial Information and Services*, for more information on geospatial data.

A2.1.3. The following table identifies data sets and layers as either "Internal" (I) or "External" (E) in terms of whether they are generated within the comprehensive planning process (internal), or are developed within other processes and serve as source information for the comprehensive planning process (external). For external data, the table also identifies the organizational elements within the host Wing that likely produce and maintain these data, although assigned responsibilities may vary. The data sets and layers listed within each category may be supplemented with additional information as required.

**Table A2.1. Geospatial Data.**

| Data Set | I/E | Data Steward | Detail |
|---|---|---|---|
| **A. Common Installation Picture** | | | |
| Installation Layout | E | CES/GIO (CENME) | Existing facilities, streets, roads and airfield pavements |
| Geographically Separated Unit (GSU) | E | CES/GIO (CENME) | Layout of existing GSU facilities, streets, roads and airfield pavements |
| Regional Location | E | CES/GIO (CENME) | Reference to nearest major city |
| Vicinity Location | E | CES/GIO (CENME) | Within 5 miles of the installation |

| Data Set | I/E | Data Steward | Detail |
|---|---|---|---|
| Aerial Photography | E | CES/GIO (CENME) | Current over flight photography rectified with the CIP |
| **B. Land Use** | | | |
| Planning Districts | I | Community Planner (CENPP) | Area depiction by boundary and name of all planning districts |
| Existing Land Use | I | Community Planner (CENPP) | Current land uses delineated in color or pattern, including GSU sites. |
| Future Land Use | I | Community Planner (CENPP) | Future land uses delineated in color or pattern, including GSU sites. |
| Vicinity Existing Land Use | I | Community Planner (CENPP) | Existing land use plan and transportation plan that defines and governs the growth of the adjacent vicinity in color or pattern |
| Vicinity Existing Zoning | I | Community Planner (CENPP) | Existing zoning of the adjacent vicinity in color or pattern |
| Developable Opportunity Areas | I | Community Planner (CENPP) | Areas identified as capable of development or redevelopment |
| Real Estate | E | Real Property Officer (CEIAP) | Parcels, rights of way, in-grants, out-grants, easements (to include AICUZ/2684a real estate interests), leases |
| **C. Airfield Operations** | | | |
| On-base Obstruction to Airfield and Airspace Criteria | I | Community Planner (CENPP) | Identified physical violations of airfield/airspace criteria within the boundaries of the installation IAW UFC 3-260-01 |

| Data Set | I/E | Data Steward | Detail |
|---|---|---|---|
| Approach & Departure Zone - Obstructions to 10,000 ft | E | Responsible Terminal Instrument Procedures (TERPS) function | Identified physical violations of airfield/airspace criteria exterior to the installation to 10,000 feet |
| Approach & Departure Zone - Obstructions Beyond 10,000 ft | E | TERPS | Identified physical violations of airfield/airspace criteria exterior to the installation beyond 10,000 feet |
| Airspace Obstructions – Vicinity | E | TERPS | Identified physical violations of airfield/airspace criteria within 5 miles of the installation |
| Airfield Pavement Plan | E | Engineering Flt (CEN) | Layout, type of pavement, and bearing capacity, as well as condition of runways, taxiway and aprons by color or symbol |
| Aircraft Parking Plan | E | Airfield Management | Aircraft parking positions by block or figures |
| Airfield Lighting Systems | E | Engineering Flt (CEN) | Approach, runway, taxiway, threshold, distance-to-go, and ramp lighting locations and supporting electrical lines |
| **D. Transportation** | | | |
| Community Network Access to Base | I | Community Planner (CENPP) | Functional street system classification showing Interstate, arterials, collectors, bike lanes, bus routes, gates & feeders providing entrance/exit to base |
| On-base Street Network | I | Community Planner (CENPP) | Functional street system classification showing arterials, collectors, sidewalks, gates and feeders on base |
| Future Transportation Plan | I | Community Planner (CENPP) | Planned/programmed modifications to the functional street system showing proposed arterials, collectors, gates and feeders on base |
| **E. Constraints** | | | |

| Data Set | I/E | Data Steward | Detail |
|---|---|---|---|
| Cultural Resources | E | Environmental Element (CEIE) | Single point or area boundary depiction of historic facilities and archaeological sites |
| Natural Resources | E | Environmental Element (CEIE) | Area boundary depiction of threatened/endangered species habitat, wetlands, 100-year floodplains, lakes, rivers, streams, water bodies, and Installation Restoration Program sites |
| Installation Restoration Program | E | Environmental Element (CEIE) | Area boundary depiction of restoration sites (to include environmental use restrictions) |
| Waste Water Discharge (NPDES) | E | Environmental Element (CEIE) | Single point of generating source |
| Storm Water Discharge (NPDES) | E | Environmental Element (CEIE) | Ground plane drainage flow pattern |
| Fuel/Chemical Storage Tanks | E | Environmental Element (CEIE) | Below and above ground tanks being 10,000 gallons or greater |
| Drinking Water Supply Sources | E | Environmental Element (CEIE) | Single point or boundary depiction of potable water sources |
| Electromagnetic & Radiation Sources | E | Environmental Element (CEIE) | Single point locations for installation emitters and boundary depiction for zones of potential hazard; clear areas required for transmission or reception look angles |
| Airfield & Airspace Clearance Criteria | I | Community Planner (CENPP) | Primary Surfaces, Transitional Surface (7:1), Approach & Departure Surface (50:1), Approach & Taxiway Clearances |

| | | | |
|---|---|---|---|
| Antiterrorism/ Force Protection | E | AT Function | All AT elements IAW UFC 4-101-01 for the installation and off-base sites |
| AICUZ | I | Community Planner (CENPP) | APZs I and II, CZ, noise contours at 5dB increments (60-85 dB) |
| Explosive Safety Quantity-Distance | E | Wing Safety | Quantity-Distance (Q-D) Arcs |
| **F. Future Development Plan** | | | |
| Short-range Development Plan (1-5 year) | I | Community Planner (CENPP) | Physical location of those projects approved or programmed for funding including construction, addition, demolition/ consolidation or alteration over the next five (5) years |
| Medium-range Development Plan (6-10 year) | I | Community Planner (CENPP) | Physical location of those projects approved or programmed for funding including construction, addition, demolition/ consolidation or alteration over the next ten (10) years |
| Long-Range Development Plan (20-year) | I | Community Planner (CENPP) | Physical location of those projects approved or programmed for funding including construction, addition, demolition/ consolidation or alteration over the next twenty (20) years |
| Alternative Scenario Plan(s) | I | Community Planner (CENPP) | Potential facility/utility /infrastructure development or re-development providing alternative installation options to accommodate future added or deleted missions |
| **G. Utilities** | | | |
| Water Distribution System | E | Operations Flt (CEO) | Wells, storage locations, and distribution lines six inches in diameter and above |
| Sanitary Sewerage System | E | Operations Flt (CEO) | Main trunk line and lift stations |

| | | | |
|---|---|---|---|
| Storm Drainage System | E | Operations Flt (CEO) | Main trunk line |
| Electrical Distribution System | E | Operations Flt (CEO) | Above and underground primary distribution lines and substations |
| Central Heating/Cooling System | E | Operations Flt (CEO) | Above-ground and underground distribution |
| Natural Gas Distribution System | E | Operations Flt (CEO) | Storage and primary/secondary distribution |
| Liquid Fuels System | E | Operations Flt (CEO) | Primary/secondary lines |
| Industrial Waste & Drain System | E | Operations Flt (CEO) | Lines, manholes, pumping stations, treatment plants, and outfalls |
| **H. Communications** | | | |
| Basewide Communications, NAVAIDS, and Weather Systems | E | Communications Sq. Weather Function | Government and non-government major cable routes (data and voice); manholes, hand-holes, equipment rooms, vaults, antennae, and repeaters |
| **I. Energy** | | | |
| Existing Generation Facilities | E | Energy Coordinator (CENPE) | Solar arrays, wind turbines, tidal generators, fuel cells, geothermal systems and associated transmission lines or pipe systems |
| Future Generation Facilities | E | Energy Coordinator (CENPE) | Solar arrays, wind turbines, tidal generators, fuel cells, geothermal systems and associated transmission lines or pipe systems |

**Note:** The IDP is intended to be releasable to outside contractors and other external agencies as required to facilitate planning, coordination, and future construction. Data layers deemed to be classified at the SECRET level or higher should not be included in the IDP. Access to data layers deemed to be FOUO or Sensitive but Unclassified should be restricted to individuals having appropriate need to know.

## Attachment 3

## SUSTAINABILITY DEVELOPMENT INDICATORS (SDI) USED IN PLANNING

The use of SDI introduces sustainability into the planning process. SDIs establish the existing installation sustainability profile for the IDP. The SDIs can also be used as measurement and predictive tools to assess the impacts of planning actions. The SDIs represent quantitative values and are used in conjunction with other quantitative and qualitative information used to inform the planning process. The SDI comprise planning ratios, e.g. Use/Sq. Ft, Use/Per Capita, and qualitative description, e.g. professional assessment, in nine sustainability categories: Air Quality, Energy Use, Water (Quality & Quantity), Encroachment, Land Use, Waste Reduction-Non Hazardous, Renewable Energy, Space Optimization and Natural/Cultural resource areas, and include inside and outside-the-fence Indicators. These categories are mandatory elements of the Installation Development Plan. Table 3.1 below shows those required categories along with a list of suggested measures and data sources. The list of measures and sources is not all inclusive. Other measures and sources may be used where applicable.

**Table A3.1. Sustainability Development Indicators & Data Sources.**

| IDP Sustainability Categories | Sustainability Indicators & Measures | Source |
|---|---|---|
| **A. Energy Use** | | |
| | *Facility Energy Intensity* (MBTU/Sq Ft) | AF Energy Almanac/Base Energy Coordinator |
| | *Facility Energy Cost* ($/Sq Ft) | AF Energy Almanac/Base Energy Coordinator |
| **B. Renewable Energy** | | |
| | *Feasibility Study* (Yes/No) | Base Energy Coordinator/ Air Force Facility Energy/Utility Program Community of Practice (CoP) |

| IDP Sustainability Categories | Sustainability Indicators & Measures | Source |
|---|---|---|
| | *Opportunity Assessment*<br>(Yes/No) | Base Energy Coordinator/<br>Air Force Facility Energy/Utility Program CoP |
| **C. Water** | | |
| | *Water Supply Availability During Average Demand*<br>(Avg. Gal/Day)<br>(% Headroom) | Natural Infrastructure Assessment (NIA)<br>AFCEC |
| | *Water Supply Availability During Peak Demand*<br>(Avg. Peak Gal/Day)<br>(% Headroom) | NIA<br>AFCEC |
| | *Water Supply Quality*<br>(NIA Rating) | NIA<br>AFCEC |
| | *Storm Water Receiving Body Quality*<br>(NIA Rating) | NIA<br>AFCEC |
| | *Wastewater Receiving Body Quality*<br>(NIA Rating) | NIA<br>AFCEC |
| **D. Air Quality** | | |
| | *Air Quality Status*<br>(Attainment/Nonattainment)<br>(Tons/year) | NIA<br>AFCEC<br>State Implementation Plan (SIP) Designation |

| IDP Sustainability Categories | Sustainability Indicators & Measures | Source |
|---|---|---|
| **E. Waste Reduction** | | |
| | *Construction waste*<br>(# of Tons/Yr)<br>(% Diversion Rate) | Enterprise Environmental Safety, & Occupational Health Management Information System (EESOH-MIS)-Non Haz Waste |
| | *Non-Haz Waste*<br>(# of Tons/Yr)<br>(% Diversion Rate) | EESOH-MIS-Non Haz Waste |
| **F. Land Use** | | |
| | *Acres by Planning District*<br>(Undeveloped Acres without Constraints)<br>(Undeveloped Acres with Constraints Allowing some Uses)<br>(Undeveloped Acres with Constraints Allowing no Uses) | Community Planner |
| **G. Space Optimization** | | |
| | *Admin Usable Space*<br>(Gross Sq Ft) | S-File-Real Property |
| | *Admin Vacant Space*<br>(Sq Ft) | S-File-Real Property |
| | *20/20 By 2020*<br>(% reduction reported to MAJCOM) | Base Programmer |

| | | |
|---|---|---|
| **H. Housing** | | |
| | *Availability of dorm rooms*<br>(# of rooms) | Installation Dorm Master Plan |
| | *Availability of privatized housing*<br>(# of Existing Units) | AF Portfolio and Asset Control and Evaluation System (AFPACES)<br>(AFCEC Database) |
| | *Availability of Gov't Housing*<br>(# of Existing Units) | Housing Requirements and Market Analysis (HRMA) and Housing Community Profile (HCP) |
| **I. Encroachment** | | |
| | *Incompatible land use in CZ, APZs, & Noise Zones*<br>(Total Incompatible Acres)<br>(% Incompatibility) | NIA<br>AICUZ Report |
| | *Urban Sprawl*<br>(% Land Urbanized) | Measuring Sprawl and Its Impact Vol I-USA Today Report (2000), Ewing, Pendall & Chen<br>US Census or Local Information |

| | | |
|---|---|---|
| | *Regional Land Urbanization*<br>(10-year % Change Population Growth) | Sustainable Installations Regional Resource Assessment (SIRRA)<br>US Census or Local Information |
| | *Regional Population Growth*<br>(% Change for Last 5 Years in Population Growth Rate) | US Census or Local Information |
| **J. Natural / Cultural** | | |
| | *Archaeological sites*<br>(# and % Acres of Listed / Eligible Sites) | Integrated Cultural Resources Management Plan (ICRMP) Installation GIS layer / Cultural Resource Coordinator |
| | *Historic facilities*<br>(# and Acres of Listed / Eligible Facilities) | ICRMP / Installation GIS layer / Cultural Resource Coordinator |

| | | |
|---|---|---|
| | *Wetlands*<br>(# of acres)<br>(% of Acres of Wetlands to Total Installation Area) | Integrated Natural Resources Management Plan (INRMP)<br>Installation GIS layer / Natural Resource Coordinator |
| | *Sikes Act compliant with required Interagency Coordination*<br>(Yes/No) | INRMP / Natural Resource Coordinator |
| | *T&E Species*<br>(# of Species)<br>(# of Acres of Designated Critical Habitat Areas) | INRMP / Installation GIS layer / Natural Resource Coordinator |