

AEPI White Paper



Analysis of Installation-Level Planning Requirements

Common data source

Overarching management system

Common vision, purpose and goals

Cross-functional coordination

Supporting organizational structure

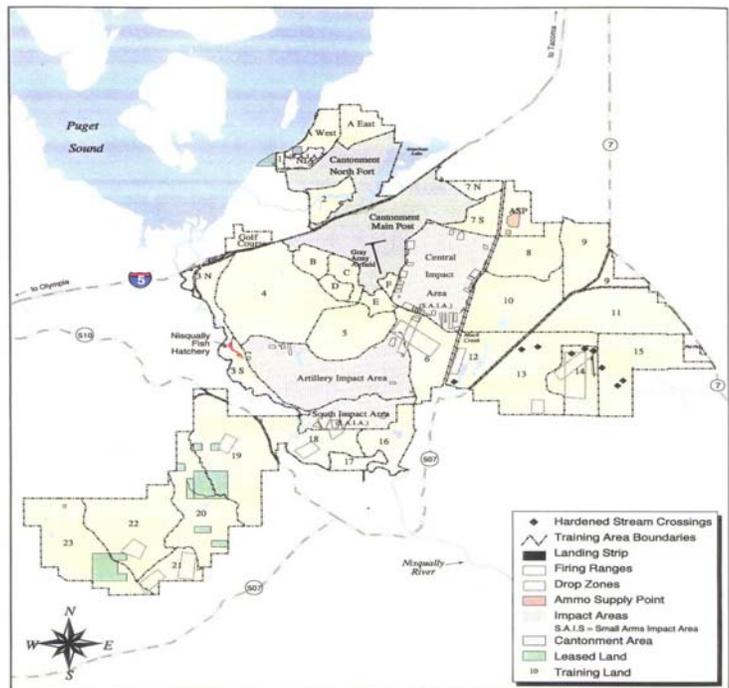


Figure 5-1

LAND USE - Fort Lewis

Scale: 0 1 2 3 4 5 Miles

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PREFACE

This report was prepared for the Army Environmental Policy Institute (AEPI) by Elizabeth Keysar, Research Fellow. The views expressed in this paper are those of the author and do not necessarily reflect the official policy or position of the U.S. government, the Department of Defense, or any of its agencies. This research was supported by an appointment to the Student Environmental Management Participation Program at the AEPI administered by the Oak Ridge Institute for Science and Education through an interagency agreement between the U.S. Department of Energy and AEPI.

The mission of the Army Environmental Policy Institute (AEPI) is to assist the Army Secretariat in forward-looking policies and strategies to address environmental issues that may have significant future impacts on the Army. In executing this mission, AEPI is further tasked with identifying and assessing the potential impacts on the Army of emerging environmental issues and trends.

Fragmented and disconnected planning is a common complaint at Army installations. Addressing this issue requires an understanding of current policy and practice, as well as an understanding of how to enhance integration in planning. This research sought to understand what the requirements for planning are and how they relate, based on a review of Army policy documents.

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EXECUTIVE SUMMARY

Management of real property facilities, training ranges, and the natural environment at Army installations is influenced by many factors, both internal and external. Guiding this management is a collection of plans written to aid decision makers. The planning procedures and contents of the planning documents are specified in Army Regulations (AR), Army Pamphlets (PAM), and other guidance documents. A given installation may have twenty or more functional area plans focused on a particular aspect of installation operations. Task specialization and functional departmentalization allow large installations to perform complex activities, but the “stovepipe” mentality also inhibits information flow and coordination. Fragmented and disconnected planning is a common complaint at Army installations. Addressing this issue requires an understanding of current policy and practice, as well as an understanding of how to enhance integration in planning.

This paper describes the results of research conducted at the policy level. Army policy documents were reviewed to determine what the planning requirements are, how these requirements relate to each other, and how these policies do (or do not) support integration. It was found that commonalities exist between the planning policies, but that there is no common framework. The regulations indicate that coordination should occur, and the primary method of coordination is through stakeholder meetings. Much of the procedures are generic and recommended, rather than prescriptive. This system allows for adaptation, interpretation and adjustment, but it also allows for many of the recommended procedures to be ignored.

This paper proposes five elements of an integrated framework. These are: 1) common vision, purpose or goals, 2) common data source, 3) cross-functional coordination, 4) supporting organizational structure and, 5) overarching management system. The current system of regulations and guidance focuses primarily on cross-functional coordination through formal means centered on a hierarchical organizational structure (required meetings, planning boards and centralized reporting). This method of coordination has limited effectiveness, as is apparent from the continued concern with fragmented planning. Furthermore, organizational research has shown that informal, lateral communications are more effective for information sharing.

Awareness of the inadequacy of current procedures is apparent based upon a review of emerging policy documents. Three proposed ARs were reviewed: proposed revisions to the Installation Master Planning AR, the new Installation Management Agency Organization and Functions AR, and the proposed Sustainable Range Program Plan. This review reveals many proposed changes that reflect elements of an integrated framework such as: 1) a required Enterprise Geographic Information System (addressing the common data

element), 2) a future installation organizational structure to be mandated and standardized (addressing the supporting organizational structure element), and 3) a new office called the Plans, Analysis and Integration Office which will function as the coordinator and manager of the multiple plans and various reporting systems (addressing the need for supporting organizational structure and a overarching management system).

Although emerging policy documents contain many necessary elements for improving integration of planning at Army installations, there is also the possibility that the new regulations will continue to add planning requirements to a system already challenged to meet existing requirements. Planning integration will improve efficiency by reducing redundancy and enhancing information sharing; but creating additional bureaucracy also has the potential to reinforce the existing implementation problems. A full and complete review of planning practice is a necessary and important step in the process of improving integration.

1. INTRODUCTION

Management of real property facilities, training ranges, and the natural environment at Army installations is influenced by many factors, both internal and external. Guiding this management is a collection of plans written to aid decision makers, all of whom are struggling to meet mission requirements with increasingly limited resources – both natural and fiscal. The content of these planning documents, as well as the planning procedures to create the documents, are specified in Army Regulations (AR), Army Pamphlets (PAM), and other guidance documents. The Army Regulations are crafted to establish Army policy, ensure compliance with Federal laws, respond to Department of Defense (DOD) Directives, and outline standardized procedures for installation-level planning.

A common critique of the existing system of installation “planning” is that the various planning processes are disjointed and fragmented (Aadland, 2003, Lachman, Camm & Resetar, 2001, EDAW, 1999, Tyler, Wheeler & Lau, 1991). Each planning requirement has a specific and important function to address, however, very little interaction and coordination exists amongst planning efforts resulting in ineffective and inefficient outcomes. The reasons for the coordination problems are complex; organizational structure and funding issues are major influences, as well as the underlying complexity of an organizational environment where many (often conflicting) goals are being pursued simultaneously.

In an effort to address the problem of fragmented planning, a policy and guidance literature review was conducted to examine the policies, requirements and guidance that dictate installation-level planning procedures. Several questions were considered as part of the research:

- a. What are the planning requirements at the installation level?
- b. Are there commonalities within these requirements, what are the inconsistencies?
- c. Does Army policy promote integrated installation planning?
- d. Is it possible to craft an overarching planning framework, if one does not already exist?
- e. What are the elements of an integrated planning framework?

This research does not attempt to justify (or critique) the existence of any given planning process or outcome. The purpose of this research was to examine how the existing requirements relate to each other in order to identify a potential planning framework to improve the existing processes. The basis of this analysis was *current* Army Regulations (AR), Pamphlets (PAM), Technical

Manuals and guidance. In addition to the Army-specific literature, a brief review of literature in environmental planning and management field was used to formulate potential elements of an integrated framework.

To compliment the review of existing policy, a review was also conducted of several emerging policy documents that also relate to the issue of integrated planning. The second half of this paper presents a brief review of these proposed policies as these documents relate to improving integration of planning at Army installations. Three documents were reviewed: proposed revisions to AR 210-20, Real Property Master Planning for Army Installations (July 2003 version); proposed regulation AR 10-XX, Installation Management Agency Organizations and Functions (April 2004 version); and the proposed Army Sustainable Range Program Plan (June 2003 version). The elements of an integrated framework can be found in these emerging policies, reinforcing the legitimacy of the framework proposed in this paper.

2. REGULATION AND POLICY REVIEW FINDINGS

2.1 What are the planning requirements at the installation level?

There are three main focus areas for installation-level planning based on subject area, process owner and implementing regulations: 1) range and training land, 2) real property and infrastructure, and 3) environmental, cultural and natural resources. All of the planning requirements reviewed by this study are listed in Table 1. Further details regarding these planning requirements are presented in Appendix A: *Planning Requirements at the Installation Level*.

2.2 Are there commonalities within these requirements?

The rational planning model is evident in most of the installation-level planning requirements based on the literature reviewed. The common steps in the rational model can be summarized as follows: 1) identify requirements, assets, capabilities and constraints, 2) develop alternative solutions, 3) evaluate alternatives, 4) select recommended alternative, and 5) develop programs and plans. These general planning steps represent a common theme to the existing requirements.

Appendix B: *Plan Contents* presents the recommended contents of the major planning documents based on the literature reviewed. Using general terminology, the recommended plan contents were arranged based on four categories: 1) baseline data and background information, 2) goals and objectives, 3) analysis, and 4) actions to be taken. It is through these groupings that some commonalities are evident. For instance, background information on the installation geological and environmental setting, assigned mission, troop strength, existing facilities, troop and family housing, civilian work force, and surrounding community characteristics are required for many of the plans.

Table 1: Summary of Plans Required at the Installation Level

Focus Area	Process Owner (typical)	Primary Plan*	Other Required Plans
Ranges and Training Land	Directorate of Plans, Training and Mobilization	Range and Training Land Program (RTLTP) Development Plan	ITAM Annual Work Plan

Real Property and Infrastructure	Directorate of Public Works	Real Property Master Plan (RPMP)	Installation Utilities Management Plan (IUMP) Integrated Solid Waste Management (ISWM) Plan Water Resources Management Plan (WRMP) Hazardous Waste Management Plan (HWMP) Resource Management Plan (RMP) Annual Work Plan Community of Excellence Plan Morale, Welfare and Recreation (MWR) Five-year Plan
Environmental, Cultural and Natural Resources Planning	Environmental Coordinator	Integrated Natural Resource Management Plan (INRMP)	Spill Prevention and Countermeasure Plan (SPCCP) RCRA Hazardous Waste Contingency Plan Facility Response Plan Environmental Noise Management Plan (ENMP) Asbestos Management Plan Pollution Prevention Plan Forest Management Plan Endangered Species Management Plan (ESMP) Integrated Cultural Resource Management Plan (ICRMP) Installation Pest Management Plan (IPMP)

* Plan found to have the most guidance provided, both in the regulations and in supporting materials.

In addition to common methods and shared background data, the regulations demonstrate overlapping goals and purpose statements. Common purpose statements relate to the following themes: 1) support of the mission, 2) support of the soldier (and families) and 3) compliance with Federal, state and local regulations.

A final, and significant, commonality in the planning requirements is the role of the Installation Commander (IC).¹ The IC is the ultimate proponent for each of the planning requirements. The plans are written to advise the IC, to aid in his/her decision-making, and to provide compliance with external regulations. For most of the requirements, the IC has responsibility to allocate adequate resources for plan preparation, approve the plan and oversee the implementation of the plan. Along with these responsibilities, the IC will determine planning priorities. Not all plans can be prepared in any given fiscal year, so the IC will allocate resources to meet mission requirements accordingly. The IC also influences organizational structure at an installation, greatly impacting the relative influence and importance given to the many installation support functions and compliance requirements. Each installation is unique, and the plans must reflect the needs of each place in order to be relevant, the IC determines relevancy.

2.3 What are the inconsistencies?

Few inconsistencies between the planning requirements were found based on the literature review – primarily because few specific details are

¹ Organizational modification of installation leadership has been undertaken over the past few years with the creation of the Installation Management Agency and subsequent re-definition of roles and responsibilities of the Garrison Commander and the Installation Commander. These organizational changes, although in effect, do not get translated into regulation and guidance documents immediately upon implementation. ARs and other written guidance often lag several years behind policy changes. This paper was written based on ARs and guidance current at the time of the literature review, therefore, “IC” may translate to “Garrison Commander” for many of these requirements in current practice.

prescribed. The guidance and recommendations given are general and flexible, thus conflicting procedures are difficult to identify. The two areas of inconsistent guidance that were found relate to the committees required and the format of data.

The Real Property Planning Board (RPPB) and the Environmental Quality Control Committee (EQCC) are two coordinating bodies that are chaired by the Installation Commander, and include membership from throughout the installation tenants, units and directorates. Details on these committees are given in Appendix C: *Coordinating Boards/Committees*. As is demonstrated by this Appendix, the RPPB and the EQCC have many of the same members and a similar coordinating function. What is not clear is how these committees relate to each other.

The regulations and guidance provide few details on the format of required data, thus making data compatibility an issue between planning efforts. The emergence of geographic information systems (GIS) as a tool for data exchange and compatibility may provide a method to standardize data formats, but this has yet to be specifically required by Army regulations and guidance.

Inconsistencies were noted *within* individual requirements. Many regulations, and the subsequent guidance, are out-of-date; some ARs refer to ARs or guidance that have been superseded and are no longer active. Terminology and format have changed over time, making older requirements incompatible with newer techniques and themes. For example, the Master Planning Instruction (MPI) document is internally inconsistent in that land use planning and integrated environmental decision-making are promoted in certain chapters; yet are placed low on the master planners 'priorities' as stated in the first chapter.

2.4 Does Army policy promote integrated installation planning?

The regulations promote integrated planning through internal and external coordination. Appendix D: *Internal Coordination* contains citations drawn from regulations and guidance documents that refer to coordination between the various agencies and tenants on an installation. There are multiple references to the importance of coordinated decision-making, and the manner in which various plans and personnel should relate. There are significantly less references to external coordination, which are presented in Appendix E: *External Coordination*, but this type of coordination is also promoted.

The Integrated Training Area Management (ITAM) program is primarily a coordination and data-sharing program; but there appears to be a lack of emphasis on the contribution this program can make to installation planning efforts. ITAM is focused on operational issues. The AR that mandates procedural compliance with the National Environmental Policy Act (NEPA)

reinforces the idea of coordinated planning and compliance in that much of the environmental analysis can be shared between plans. Program or plan-level NEPA documentation, however, although promoted by the AR, is not clearly mandated.

In general, although coordination is encouraged, it is done so as 'general policy'. There is a lack of concrete mechanisms to allow for functional planning methods to be integrated. The ARs and supporting guidance utilize implementation techniques based on the assumption that requiring stakeholders to attend meetings equals 'integration'. However, additional techniques are needed because attendance to a required meeting has not proven adequate to enhance integration and information sharing amongst the major planning entities.

2.5 Is it possible to craft an overarching planning framework, if one does not already exist?

The goals and objectives of installation planning are established by the Army Regulations. The ARs are policy statements, and generally are not prescriptive regarding procedures. Thus, many of the planning requirements lack specific procedural guidance. Furthermore, existing guidance comes in many forms: Army pamphlets (PAMs), Technical Manuals (TMs), guidance documents or web sites. These secondary sources are not as easy to locate as the AR, and are often out-of-date. As a result of the multiple (or non-existent) guidance documents and divided planning proponentcy, there is not a common planning framework, or even a common planning language, for the installation planning requirements. Appendix B: *Plan Contents* further demonstrates the lack of a common planning framework based on plan contents.

The existing system of planning requirements contains many recommended procedures; actions with "should" before them, or actions that are "encouraged." Many requirements do not have deadlines or timeframes, and oversight authority is loosely specified. This system allows for adaptation, interpretation and adjustment, but it also allows for many of the recommended procedures to be ignored. A potential framework for integrated planning exists on paper – with the Real Property Master Plan, for which other plans are contributing or component plans – but not in a *prescriptive* form. The complexity of the multiple planning requirements makes a singular planning framework difficult to prescribe (more so than has already been attempted). It is not clear that additional, new, and more prescriptive regulations are necessary or desirable, given the autonomy that Installation Commanders are granted when managing their installations.

2.6 Renewed Emphasis on the 'Master Plan'

Based on the Army literature review, installation master planning is where the greatest potential for an integrated planning framework can be found. Even

though the current Real Property Master Planning regulation is out-of-date, it is still the most unifying framework, from a functional planning perspective, that currently exists. The implementing regulation AR 210-20, and the guidance document: *Master Planning Instruction*, contain the most comprehensive linkage between all the various plans; they are all ‘contributing’ plans or ‘component’ plans to the RPMP. Attachment F: *References to Master Planning* contains citations found in the ARs and guidance documents referring to master planning and land use planning. The relationship of other planning efforts to the master plan is a common thread throughout the literature reviewed.

The inclusion of a project in the RPMP is a common requirement for approval and funding; the master planner in DPW has approval authority on real property maintenance, construction and land use at the installation. There are “real property implications” for everything that happens at an installation.² The ITAM Procedural Manual, Section 5.3.1, defines real property this way:

“Land is real property. It is a priceless non-renewable asset that has been ‘loaned’ to the Army for use in supporting our national defense mission. Family housing, barracks, offices, roads, wilderness areas, live-fire ranges, and maneuver areas are all real property assets ‘built’ on land.”

Master planning also emphasizes the relationship between the installation and the surrounding community; “The nature of planning requires cooperation, communication and coordination among key personnel on-post and off-post.” MPI, page 4-3. The installation planner must be an “organizer, ambassador, coordinator, facilitator, interpreter, and a collector and repository of information.” MPI, page 1-7. This emphasis on the *professional duties of the planner* was not found in any of the other planning requirements literature examined.

This literature review demonstrated that Army policy, as stated in the Army regulations and supporting guidance, generally supports integrated installation planning, primarily through the Real Property Master Planning process. Data incompatibility and lack of specific (and mandated) coordination and integration procedures appear to be the greatest inhibitors, based on the written policies. These conclusions are based on the literature reviewed. These conclusions, therefore, are not informative regarding planning practice – further research is necessary to understand how the policies are implemented.

2.7 Proposed Elements of an Integrated Planning Framework

In this section five elements key to an integrated planning framework are proposed based on Army literature and other sources in environmental planning and management literature. The first element is a common vision, purpose or goal. If multiple, and possibly conflicting, goals are being pursued simultaneously, it is essential for the planners to be aware of the larger concerns

² This statement is based on an observation of Greg Brewer, ACSIM, April 2002.

of the organization, and how their actions relate to higher objectives and common goals (Margerum, 1997). As objectives are frequently changing for the units and tenants stationed at an installation, a technique for notifying members of the organization about significant changes is part of maintaining a shared vision.

The second element of an integrated planning framework is a common data source. Integration will be enhanced if data is readily available in a usable form for each functional planning unit. This requires a common language and a shared paradigm for sufficient understanding and communication, as data is collected by specialists in a variety of functional areas (Downs & Gregory, 1991, p. 299). Data covering similar areas but in incompatible format inhibits information sharing which is key to integrated planning. Access to data regarding other installation planning efforts will inform the recommendations of another planning effort. This access to data should include access to the plans and supporting studies.

The third element of an integrated planning framework is cross-functional coordination. Coordination can be in the form of required meetings, documentation and centralized reporting (these techniques are common to existing Army regulations and guidance) or in the form of informal lateral relations (Lachman, Camm & Resetar, 2001, Tsai, 2002). Hierarchical and formal coordination methods *alone* are not adequate to enhance integration (Lachman, Camm & Resetar, 2001, Tsai, 2002). Informal lateral relations have been shown to have a positive effect on information sharing (Tsai, 2002). Informal communications are difficult to prescribe precisely because these are the communications that occur *outside* the formal mechanisms; but the importance and effectiveness of this type of coordination makes it key to an integrated framework.

The fourth element is a supporting organizational structure. Organizational structure impacts coordination, as indicated in the previous paragraph, but additional attention regarding the influence of organizational structure is important. First, integration of planning efforts is related to the relative power of the functional units. Integration is enhanced if the units are at an equal level in the organizational hierarchy (Keysar & Steinemann, 2002). Second, designation of an organizational unit responsible for overall coordination of planning efforts should aid in oversight of planning processes, the collection and storing the multiple plans in a single location, standardizing of data formats, ensuring the plans are consistent with each other and ensuring consistency with the overall strategic plan for the installation.

The fifth element is an overarching management system. This proposed element addresses the transition from planning to operations, but is important for providing the measures and objectives that the plans are meant to influence. If each functional area is reporting through its own management system, it is difficult to compare outcomes. Certain actions called for by a given functional

plan will impact the success of another set of planned actions, but methods of tracking success are disjointed – inhibiting the ability of planners and managers to understand relationships.

3. REVIEW OF EMERGING POLICY

3.1 Master Planning for Army Installations, AR 210-20

Army regulation AR 210-20, Master Planning for Army Installations, is due for a revision. The last update to this regulation was in 1993, and much has changed in the last ten years, such as the creation of the Installation Management Agency (IMA). Many new issue areas have developed over this time period relating to encroachment, base closure and environmental management. This section presents a brief overview of the major changes proposed to this regulation, based on a draft version made available through Gregory Brewer, ACSIM, in July 2003.

The proposed revisions stress the importance of master planning by clarifying the purposes and outcomes of the process. Many of the changes reflect the need for greater integration. The proponent for the regulation is now the Assistant Chief of Staff for Installation Management (ACSIM), and not the Chief of Engineers. This change should help to expand the applicability of Master Planning beyond an engineering and construction focus. Changing the responsibilities for guidance, approval and oversight of the master planning process to IMA Regional Headquarters (formerly these responsibilities belonged to the MACOM) should also help in cross-functionality.

A new document has been introduced, called the Real Property Master Plan (RPMP) Digest. This document is in addition to the existing documents that form the RPMP (Long Range Component (LRC), Short Range Component (SRC), and Capital Investment Strategy (CIS)). The RPMP Digest is designed to be user-friendly, summarizing the Installation Commander's vision, major issues impacting this vision, and the overall plan for the development of the installation. The proposed regulation indicates that this document will be in a standardized and automated format, making it easy to access and easy to maintain. This recommended change is also positive for improving integration.

Another significant change that should enhance integration involves the requirement for a standardized spatial data standard for an Enterprise Geographic Information System (GIS), Army-wide. This standard requires the use of electronic, web-based and compatible data in GIS format to enable sharing and integration of the data to internal and external users, as well as IMA Headquarters and Army Headquarters (HQDA). Furthermore, the list of contributing information and contributing plans has been updated in the proposed revision. These changes will clarify how contributing plans should be used and incorporated into the RPMP.

In the proposed regulation, there is a renewed focus on local community plans, regional plans, and involvement of the local community in installation master planning. The scope of master planning has been expanded to go

beyond 'real property' and include land use zoning, privatization, base realignment and clean up actions. The "process" of master planning has been expanded to include strengthened emphasis on utilization of the following: multiple data sources, involvement of the outside community, and "frequent and extensive" internal coordination (through site visits, review of other planning efforts, and staff reviews of the RPMP). These are all positive changes toward re-invigorating Master Planning as something more than a construction management process.

The changes in the regulation are all excellent and long overdue. There is a need to revitalize master planning at installations where it has suffered from neglect over the past several years (Aadland, 2003). Although the linkage between master planning and other planning efforts has been reinforced, the inclusion of other plans as "contributing information" to the RPMP may not be a strong enough mechanism to overcome the planning fragmentation that is currently a problem.

The proposed regulation follows the previous version in relying on the Real Property Planning Board (RPPB) as the coordinating body, with the Garrison Commander as the Chairperson and the installation staff engineer (normally the Directorate of Public Works) as the executive secretary. The minor changes proposed to the role of the RPPB may do little to improve the current situation.

Although environmental issues emerge repeatedly in the proposed revision, as currently they do not, the stance on preparing environmental impact assessment documents (according to the National Environmental Policy Act [NEPA] and AR 200-2, Analysis of Army Actions) for the RPMP is not altered. The position presented in the revised AR is that the master planning process and the RPMP are "decision support" tools, and that any particular decision is not necessarily being made. This will not enhance the integration of NEPA into planning efforts. Another missed opportunity in the revision relates to the emerging requirement to implement Environmental Management Systems (EMSs) at each installation. If the master planning process culminates in "one comprehensive decision support document" for the Garrison Commander, and environmental analysis is being conducted to identify environmental impacts of planning proposals, then master planning logically supports and enhances EMS planning and implementation (and vice versa). The proposed regulation gives only a passing mention of EMS. What is missing is a description of a structured and explicit interaction of these management tools, and the revision of AR 210-20 is an excellent place to outline such a strategy.

3.2 Installation Management Agency Organization and Functions

The proposed Installation Management Agency (IMA) Organization and Functions AR is an effort to standardize the organizational structure and

functions of Army Garrisons³ “including its directorates, subordinate divisions or branches, and staff” (p. 2, Purpose). IMA is a new Army agency, and thus a regulation is necessary to clarify the roles and responsibilities of the new agency. It is also necessary to clarify the changes that other agencies will experience as a result of the new organizational structure.

The proposed regulation devotes a great deal of text to the “planning integration functions” of the new Plans, Analysis and Integration Office (PAIO). This text is an interesting reflection of ideas presented in this paper in regards to a supporting organizational structure as an important element of an integrated planning framework. The new PAIO is to be part of the “Garrison Management and Control Offices” and will have two branches, Management Analysis and Planning Integration. The PAIO will serve as “the integrating center for coordinating actions across the various functional lanes within the garrison” (p. 10). The vision of this regulation is to create a new organizational function: ‘integrator’. The creation of an oversight agency for planning and management is a positive direction for improving planning integration, assuming the PAIO will have oversight authority for sourcing, reviewing and approval of plans, as is implied by the statement that the PAIO “executes short and long range planning programs and selected business improvement initiatives” (p. 9). Furthermore, it is important that this Office does not overly rely upon formalized coordination mechanisms that have been the standard approach for integration.

The proposed regulation contains a list of twelve planning integration functions to be performed by the Planning Integration Branch of the PAIO including responsibility for a new planning board, the Installation Planning Board, which will “bring together outputs from several intermediate-level plans,” specifically the Installation Strategic Plan and the RPMP. The creation of a new planning board should be accomplished in a manner that incorporates or eliminates existing planning boards (RPPB and EQQC) to eliminate redundancy. Requiring attendance on multiple boards may reduce attendance and participation.

An additional concern is that plans prepared by the PAIO do not repeat planning efforts already being performed. According to the proposed regulation, the Installation Strategic Plan (ISP) will be the responsibility of the PAIO, and this plan will be the “overarching azimuth for the installation’s future“ to include “all the functional area master plans” (p. 10) such as:

- Ranges and training areas
- Energy utilization and conservation
- Environmental management
- Non-appropriated fund capital purchases and construction
- Information technology

³ An Army Garrison is equivalent to an installation or collection of small installations and training areas.

- Force protection and physical security
- Human resources
- Emergency response and contingency
- Mobilization and deployment support
- Resource management

This list clearly overlaps many of the plans that the RPMP is also meant to incorporate, and the purpose of the ISP also appears to overlap the purpose of the RPMP. Considering the expanding direction and purpose for master planning that is proposed by the revisions to AR 210-20, potential redundancy and overlap are already evident. The proposed IMA Organization and Functions regulation, based on the version reviewed for this paper, does not adequately establish the relationship between master planning and strategic planning. It appears that planning at a *strategic* level *above* master planning is needed and desirable; adequate planning integration has not occurred through current implementation of installation master planning. Unfortunately, this is an implementation issue. Master planning, in particular the Long Range Component, is already strategic and can therefore not be categorized with the other “area functional plans”. If master planning is implemented as intended by the existing AR, and *especially as intended by the proposed AR*, then the installation will now have two very similar plans.

According to the proposed IMA Organization and Functions regulation, the ISP will ensure “that independently developed functional plans are brought into an integrated framework that will drive the synergy and common focus needed to maximize efficiency and effectiveness of garrison operations” (p. 10). According to the proposed revisions to AR 210-20: “The purpose of real property master planning is to... minimize turbulence in resource programming by coordinating and integrating all real-property related plans and proposals with approved departmental and command plans and initiatives creating one comprehensive decision support document” (p. 26, Line 616).

3.3 Army Sustainable Range Program Plan

The Army Sustainable Range Program (SRP) Plan, Final Draft, dated June 3, 2003, was reviewed to evaluate the relationship this plan has with other planning requirements at the installation level. The SRP Plan is an action plan to address encroachment issues for Army test and training ranges. It does not propose any new planning requirements, rather, it is a document designed to clarify the relationship and purpose of existing range planning and management tools, specifically the Range and Training Land Program (RTLTP) and the Installation Training Area Management (ITAM) Program. According to this document, the program requirements will ultimately be specified in a new Army AR. The purpose of the Plan is to designate responsibilities for integrating facility management, environmental and range programs in support of the doctrinal

training requirements. This integration is proposed for all levels of the Army hierarchy; the installation-level requirements are of interest here.

The SRP plan presents the concept of “management integration” at the installation level by adoption of a “multi-functional, integrated management capability and business process” (p. 11). The document does not specify how this capability and process is to be developed; the *installation* is to determine the best strategy (Fort Stewart is presented as a model). The document also indicates the use of an Integrated Process Team approach to implementing the SRP, but members of this team and functions of the team are not specified. The document devotes a chapter to “Shared and Integrated Planning.” The section on integrated installation planning primarily describes how existing planning requirements relate to the Range Development Plan (RPD). The RPD requirements, along with the requirements dictated by the Integrated Natural Resource Management Plan, safety, munitions, and facility management, are to be used to develop an “Operational Overlay” which will feed into the RPMP. The SRP Plan attempts to improve integration of installation planning by further clarifying existing roles and responsibilities, and reinforcing the coordination mechanisms already found in the existing regulations.

4. CONCLUSION AND RECOMMENDATIONS

The effort to improve integration of planning at installations is not an idea isolated to the environmental program. Master Planners, strategic planners and range planners are all concerned with improving integration. Army installations are “multi-planning agencies”. The need for this type of agency is due to

“...the limitations of information-handling capacity experienced by all problem-solvers. No individual planning agency engages in truly rational planning, because none can span the total available action space and, simultaneously, have the detailed knowledge required for formulating and implementing programs.” (Faludi, 1973, p. 207)

Complex problems require specialization and fragmentation, the challenge is to design and implement “certain patterns of communication and control” (Faludi, 1973, p. 208) to coordinate individual planning efforts and prioritize conflicting goals. Designing such “patterns” has been part of Army regulations and guidance, but without adequate results. This review of existing planning policies has shown a limited scope of techniques to encourage integration. Existing policy encourages integration through hierarchical reporting channels and formal communication techniques. A successful framework for integration should include additional elements of cross-functional coordination utilizing informal, lateral communication, as well as: 1) a common vision, purpose or goals, 2) a common data source, 3) a supporting organizational structure and, 4) an overarching management system.

The review of emerging policy documents found many necessary elements for improving integration of planning at Army installations, such as: 1) a required Enterprise Geographic Information System (addressing the common data element), 2) a future installation organizational structure to be mandated and standardized (addressing the supporting organizational structure element), and 3) a new office called the Plans, Analysis and Integration Office which will function as the coordinator and manager of the multiple plans and various reporting systems (addressing the need for supporting organizational structure and a overarching management system). These changes represent an effort to utilize additional techniques to enhance integration.

There is a possibility that new regulations will continue to add planning requirements to a system already challenged to meet existing requirements. Planning integration will improve efficiency by reducing redundancy and enhancing information sharing; but creating additional bureaucracy also has the potential to reinforce the existing implementation problems. The primary recommendation of this study is to complete a full and complete review of *planning practice*. Knowledge about how installations have successfully integrated planning, as well as information on what factors inhibit or enhance

integration will assist in the design of new policies. It may be that new policies, such as the SRP Plan, cannot address fundamental implementation issues.

Additional recommendations are forwarded in regards to master planning and strategic planning. The recommended revisions to AR 210-20 are positive for re-invigorating master planning. A renewal in the RPMP process may improve integration of installation planning without the need to implement any additional policies or programs. The proposed Enterprise GIS can be a key component of a standardized data collection and access system. A strategic planning office, as proposed by the PAIO is also a positive effort, and close attention is needed to clarify the relationship between the Installation Strategic Plan and the RPMP.

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Appendix A: Planning Requirements at the Installation Level*

Title of Plan	Required by: AR # Section	PAM to describe Contents? Y/N	Federal Law Requires? Y/N	Review/update time frame specified
Spill Prevention Control and Countermeasure Plan (SPCCP)	AR 200-1 2-3 (h) 3-3 (b) AR 420-49 3-8 (b)	PAM 200-1 describes contents in general terms only	Yes, for certain POL storage facilities	As required by CWA
RCRA Hazardous Waste Contingency Plan; Facility Response Plan	3-1 (a)	PAM 200-1 indicates these plans are part of the SPCCP	Yes, for use/storage of hazardous materials, generation of hazardous waste	As required by RCRA, EPCRA, CWA, National Contingency Plan, CAA, etc.
Environmental Noise Management Plan	PAM 200-1 7-2 (a) <i>note: AR 200-1 refers to a program, not a plan</i>	PAM 200-1 indicates the elements of the plan/program	No	“Installations will maintain a current ENMP...”
Asbestos Management Plans Asbestos Hazard Management Plan	AR 200-1 8-2 (d) AR 420-70 3-7 (b)	No -- Outline and minimum content given in AR 200-1; specific guidance in Public Works Technical Bulletin	No	None given
Pollution Prevention Plan	AR 200-1 10-3 (b)	PAM 200-1 gives outline of plan contents	No	“All P2 plans should be updated whenever a change in function or process occurs”
Forest Management Plan	AR 200-3 5-2 (b)	No	No	“prerequisite for timber harvest availability...”
Integrated Natural Resources Management Plan (INRMP)	AR 200-3 9-1 (a)	No – guidance provided by AEC document	Yes – Sikes Act and SAIA	Major revision of all parts will be accomplished at least every 5 years.
Endangered Species Management Plans	AR 200-3 11-5 (a)	No – outline and general content given in AR 200-	No – however Endangered Species Act	Annual review and report on status, progress; update

Title of Plan	Required by: AR # Section	PAM to describe Contents? Y/N	Federal Law Requires? Y/N	Review/update time frame specified
(ESMP)		3	requires “all methods and procedures necessary...”	themes as required to meet conservation goals. ESMP is required one year from discovery of new species.
Integrated Cultural Resources Management Plans (ICRMP)	AR 200-4 2-1 (c)	PAM 200-4	No	“a 5-year plan...”
Installation Pest Management Plan (IPMP)	AR 200-5 2-6 (a) AR 200-3 2-18	No	No	“updated as necessary and will be reviewed at least annually...”
Real Property Master Plan (RPMP)	AR 210-20 1-1 (c)	AR gives detailed outline; Master Planning Instruction (MPI) specifies procedures in more detail	No	Revision to LRC: “when overall installation assigned strength changes significantly, changes in mission trigger need for different land use, operational safety requirements affect land use, or directed by HQDA, but at least every 10 years”
Range and Training Land Program (RTLTP) Development Plan	AR 210-21 3-3 (a)	No	No	“RTLTP reviews generally span a seven-year period...” “Process begins when installations develop and submit their annual RTLTP Development Plan...”
Morale, Welfare and Recreation (MWR) 5-year plan	AR 215-1 10-1	No	No	Annual review
ITAM Annual Work Plan	AR 350-4 2-5	No – ITAM Procedural Manual gives guidance	No	Annual
Installation Utilities Management Plan (IUMP)	AR 420-49 2-1 (d)	No – Public Works Bulletin 420-10-08, Engineers Technical Letter 1110-3-404	No	Not specified
Integrated Solid	AR 420-49	No – Guidance	No	“as required”

Title of Plan	Required by: AR # Section	PAM to describe Contents? Y/N	Federal Law Requires? Y/N	Review/update time frame specified
Waste Management (ISWM) Plan	3-2 (b) AR 200-1 5-10 (b)	provided by U.S. Army Center for Public Works		
Water Resources Management Plan (WRMP)	AR 420-49 4-3 (a) AR 200-1 2-6 (b)	No	No	as part of CIS in accordance with 210-20; as a 'holistic' management approach to meet requirements of CWA, SDWA
Hazardous Waste Management Plan (HWMP)	AR 420-49 3-8 (b)	No	Laws applying to HAZMAT and POL use and storage	
Resource Management Plan (RMP)	AR 420-72 2-10	No	No	Annual review, 5 year coverage
Annual Work Plan	AR 420-72 2-10 (transportation infrastructure)	No	No	Annual
Community of Excellence Plan	N/A	PAM 600-45 (few details)	No	"should have both short-range and long-range horizons"

* Some plans are called for in a PAM, but not specified in the AR, for example – Installation Action Plans and Community Relations Plans (specifically for installations participating in the Installation Restoration Program). These plans are not included in this chart.

Appendix B: Plan Contents

Plan Title, Source	Integrated Solid Waste Management Plan, PAM 200-1; 5-9	Pollution Prevention Plan, PAM 200-1; 10-3	Environmental Impact Statement, AR 200-2 (32 CFR Part 651) 651.43	Integrated Natural Resources Management Plan, "Guidelines to Prepare INRMP..." (AEC)	Endangered Species Management Plan, AR 200-3; 11-5(b)	Integrated Cultural Resources Management Plan, PAM 200-4; 2-4	Real Property Master Plan (RPMP), AR 210-20; 3-3, 3-4, 3-5	Installation Utilities Management Plan, 420-49; 2-1(d)	Range and Training Land Program (RTLTP) Development Plan, Generic Methodology (USACE)
Baseline Data, Background	Assignment of responsibilities Waste characterization	Baseline survey	Affected environment (baseline conditions) that may be impacted	Location and acreage Military mission Facilities Responsible and interested parties Natural resources and climate Land use and management units	Documented survey and inventory information	Statutes and regulations Planning level survey Cultural resources inventory	Natural and cultural resources baseline analysis (LRC) Environmental quality (LRC) Utilities assessment (LRC) Transportation assessment (LRC) Supporting graphics (LRC, CIS, SRC) Requirements for additional back-up documentation (TAB) (CIS)	Current utility practices Current and future installation and tenant needs Installation mission, size, economic and environmental considerations Required resources Utility systems map Energy	Installation training mission Environmental conditions, issues, constraints Training assumptions Training asset inventory RTLTP operational overlay Training asset utilization profile
Baseline Data, Background									

Plan Title, Source	Integrated Solid Waste Management Plan, PAM 200-1; 5-9	Pollution Prevention Plan, PAM 200-1; 10-3	Environmental Impact Statement, AR 200-2 (32 CFR Part 651) 651.43	Integrated Natural Resources Management Plan, "Guidelines to Prepare INRMP..." (AEC)	Endangered Species Management Plan, AR 200-3; 11-5(b)	Integrated Cultural Resources Management Plan, PAM 200-4; 2-4	Real Property Master Plan (RPMP), AR 210-20; 3-3, 3-4, 3-5	Installation Utilities Management Plan, 420-49; 2-1(d)	Range and Training Land Program (RTL) Development Plan, Generic Methodology (USACE)
Goals, Objectives		Introduction and regulatory requirements Commitment and program implementation	Purpose of and need for the action	Goals and policies	The Installation's conservation goals for the subject species				
Analysis		Periodic pollution prevention opportunity assessment summary	Alternatives considered, including proposed action and no-action Environmental and socioeconomic consequences	NEPA Biopolitical issue resolution	Estimates of the time, cost and personnel needed A checklist for use by those assessing installation compliance with the ESMP Objective, measurable criteria	Economic analysis	Consideration of alternatives (CIS) Long range analysis (LRC) Land use analysis (LRC)		Comparative asset utilization analysis Training requirements analysis Alternatives analysis

Plan Title, Source	Integrated Solid Waste Management Plan, PAM 200-1; 5-9	Pollution Prevention Plan, PAM 200-1; 10-3	Environmental Impact Statement, AR 200-2 (32 CFR Part 651) 651.43	Integrated Natural Resources Management Plan, "Guidelines to Prepare INRMP..." (AEC)	Endangered Species Management Plan, AR 200-3; 11-5(b)	Integrated Cultural Resources Management Plan, PAM 200-4; 2-4	Real Property Master Plan (RPMP), AR 210-20; 3-3, 3-4, 3-5	Installation Utilities Management Plan, 420-49; 2-1(d)	Range and Training Land Program (RTL) Development Plan, Generic Methodology (USACE)
Actions to be taken	<p>Reduction of waste generation</p> <p>Waste stream diversion by reuse, recycling and composting</p> <p>Collection and storage methods</p> <p>Disposal by incineration and landfill</p>	<p>P2 implementation plan</p> <p>Annual P2 reporting</p>		<p>Cultural resources protection</p> <p>Inventorying and monitoring</p> <p>Natural resources management</p> <p>Implementation</p> <p>Enforcement</p> <p>Environmental Awareness</p> <p>Outdoor recreation</p> <p>Research and special projects</p>	<p>Area specific management prescriptions and actions</p> <p>Means to include ESMP provisions into the installation ITAM program</p> <p>An on-going inventory and monitoring plan</p>	<p>Management plan</p> <p>Public involvement plan</p>	<p>Installation design guide (LRC)</p> <p>Action plan (CIS)</p> <p>Real property investment plan (SRC)</p>	<p>Strategy to implement selected program options</p> <p>Emergency response</p> <p>Solid waste management</p> <p>Corrosion control</p>	<p>Preferred alternative</p>

Appendix C: Coordinating Boards/Committees

Planning/Coordinating Committee or Boards	Statement	AR and Section
<i>Environmental Quality Control Committee (EQCC)</i>	The EQCC will consist of members representing the operational, engineering, planning, resources management, legal, medical, and safety interests of the command, including military installation tenant activities. The EQCC coordinates activities of the environmental programs covered in this regulation. The EQCC advises the command on environmental priorities, policies, strategies, and programs.	200-1; 15-11
	The installation EQCC will also monitor land use development plans, programs, and projects in the areas on and adjacent to the installation for land use changes that are not compatible with the noise environment.	PAM 200-1; 7-3
	Army policy assigns some of the most important management review responsibilities to the EQCC. AR 200-1 directs installation, major subordinate commands and MACOMs to establish an EQCC.	Installation Environmental Program Management Guide
	The EQCC's mandate is to coordinate environmental programs, advise the command on environmental policies, priorities, strategies and programs; and assist the commander in assessing environmental performance.	Installation Environmental Program Management Guide
	Members of the EQCC include Directorate and Special staff and tenants that control operations having significant environmental impact. Committee meetings should be held at least once a quarter, and once a month when needed. The EQCC's administrative responsibilities are normally assigned to the DPW.	Installation Environmental Program Management Guide

Planning/Coordinating Committee or Boards	Statement	AR and Section
<i>Real Property Planning Board (RPPB)</i>	Composition of the RPPB - Chairman: installation commander, Voting Members: installation staff engineer; chief of each principal and special staff section of the installation; installation environmental coordinator; others as designated by the installation commander; the commander or representative of each major unit or independent activity including the US Army Reserve and Army National Guard activities, Associate (nonvoting) Members: supporting division engineer; commander of the MACOM controlling the installation will provide an associate member; representatives of adjoining or nearby military installations	AR 210-20; 4-3
	All proposed projects must be sited in the installation RPMP and approved by the installation Real Property Planning Board (RPPB) and MACOM, regardless of the funding or project size (through site approval request procedures)	AR 210-20; 3-11(b)
	Commanders of Army installations will establish and maintain a RPPB. The RPPB will assist the commander to manage and develop the installation and real estate in an orderly manner to satisfy all assigned and future known missions, management processes and community aspirations.	AR 210-20; 4-1
	The RPPB will coordinate installation development planning with the following elements: adjacent and nearby installations; other activities of the DOD and federal agencies; local agencies and planning commissions of neighboring cities, counties and states. The RPPB will ensure the RPMP addresses all real property requirements; reflects changes in installation missions; projects for growth or reductions in units and activities. The RPPB will determine the installation architectural and design themes. The RPPB will review funding requirements to maintain RPMP documents, and maximize use of existing facilities.	AR 210-20; 4-2(c)
	The RPPB will meet at least semi annually	AR 210-20; 4-4

Appendix D: Internal Coordination

Source	Reference to Internal Coordination
Installation Environmental Program Management Guide	The EQCC also provides a forum to address and resolve complex environmental issues that can affect the installation. It gives those attending the meetings a chance to hear the installation commander's concerns and guidance on various environmental issues, as well as an opportunity to learn more about the impact of environmental considerations on installation operations.
Installation Environmental Program Management Guide	Integrated Training Area Management establishes a systematic framework for making decisions on the use of Army training lands, by integrating elements of operational, environmental, master planning, and other programs to identify and assess land use alternatives.
Installation Environmental Program Management Guide	The Army watershed management program, begun in 1999, encompasses CWA and SDWA regulatory requirements aimed at improving watersheds and endeavors to integrate those requirements with P2, conservation, facility planning, ITAM, range rule, DERP, technology, and other environmental programs which do, or could potentially, impact water resources. This integration across Army programs will not only help to prevent duplication of effort, but could also reduce budget and installation compliance requirements.
PAM 200-1; 2-4	This is accomplished through a total water quality management approach, also referred to as a Water Resource Management Program or Plan (WRMP). The approach or program integrates plans to provide a holistic view of the installation's water sources and how to manage them. This approach promotes development of pollution prevention (P2) methods and watershed protection plans; promotes coordination with natural resource managers, facility planners, facility and operational personnel, fire and safety managers, and engineering staff; and reduces compliance violations.
PAM 200-1; 3-4	The Facility Response Plan (FRP) should be integrated with the SPCCP. The one plan will integrate various emergency response plans at an installation into an integrated contingency plan that will provide coordination of response activities within the facility, minimize duplication, and simplify plan development and maintenance.
AR 200-2 (32 CFR Part 651) 651.5 (a)	The Army is expected to manage those aspects of the environment affected by Army activities; comprehensively integrating environmental policy objectives into planning and decision-making.
AR 200-2 (32 CFR Part 651) 651.9 (a)	All Army decision-making that may impact the human environment will use an interdisciplinary approach that ensures the integrated use of the natural and social sciences, planning, and the environmental design arts.
AR 200-2 (32 CFR Part 651) 651.14 (a)	The Army goal is to concurrently integrate environmental reviews with other Army planning and decision-making actions, thereby avoiding delays in mission accomplishment.
AR 200-2 (32 CFR Part 651) 651.1 (d)	Early integration of the NEPA process into all aspects of Army planning, so as to prevent disruption in the decision-making process; ensuring that NEPA personnel function as team members, supporting the Army planning process and sound Army decision-making. All NEPA analyses will be prepared by an interdisciplinary team. Partnering or coordinating with agencies, organizations, and individuals whose specialized expertise will improve the NEPA process.

Source	Reference to Internal Coordination
AR 200-2 (32 CFR Part 651) 651.14	NEPA is the “umbrella” that facilitates such coordination by integrating processes that might otherwise proceed independently. Prime candidates for such integration include, but are not limited to, the following: The Sikes Act, Public Law 86-797 Stat. 1052; AR 200-3 Natural Resources – Land Forest, and Wildlife Management; Any installation and Army master planning functions and plans; Any installation management plans, particularly those that deal directly with the environment; Any stationing and installation planning, force development planning, and materiel acquisition planning; Environmental Noise Management Program; Hazardous Waste Management Plans; Integrated Cultural Resource Management Plans as required by AR 200-4; Asbestos Management Plans; and Integrated Natural Resources Management Plans.
AR 200-3; 4-10	The Army Communities of Excellence (ACOE) program is designed to bring together, under a central umbrella, all those programs and components that directly impact on life in Army communities. Its goal is to help the garrison commander focus on an integrated plan for improving the community
AR 200-3; 2-2(b)	It is Army policy to integrate environmental reviews concurrently with other Army planning and decision-making actions to avoid delays in mission accomplishment.
AR 200-3; 3-2(b)	The natural resources management professional will be an active participant in all planning and decision-making activities regarding the uses of land to ensure that current and planned mission activities (for example, master planning, construction requests, site approval requests, and training exercise plans) are conducted in a manner which is compatible with natural resources and other environmental requirements.
AR 200-3; 11-5(b)	Upon approval by the installation commander, the ESMP will be made part of the installation’s Integrated Natural Resources Management Plan and the cooperative plan as required by the Sikes Act.
AR 200-3; 11-6(f)	To avoid unnecessary delay, proponents should provide complete NEPA documentation for early inclusion with recommendations or reports on ESMPs and ESMGs. Simultaneous compliance with NEPA and ESA procedures minimizes duplication of effort and avoids delay. Proponents may combine ESA and NEPA documentation to reduce paperwork (such as the biological assessment and environmental assessment) so long as the requirements of both statutes are met.
AR 200-3; 11-12	ITAM is the primary Army program for balancing land use for military training and testing with natural resources conservation requirements, including the protection of listed species and critical habitats. The program provides the technical foundation to integrate these competing requirements. Effective implementation of ITAM requires close coordination and cooperation between the installation engineer (or environmental directorate where appropriate) and the training/testing directorate.
Guidelines to Prepare INRMP, page 3	As a minimum the scope of INRMP implementation should span the entire installation, but the consideration of the effects of that management should extend beyond installation boundaries.
Guidelines to Prepare INRMP, page 4	With good NEPA documentation to support natural resources management decisions, the INRMP should serve as an excellent reference for tiering future NEPA documents. It is important that the INRMP preparation process be directly linked with NEPA documentation. This does not mean that the general public or an environmental organization will dictate the content of the INRMP. Once the military mission and natural resources objective have been well identified, outside participation could be very helpful in identifying different alternatives to reach those objectives.

Source	Reference to Internal Coordination
Guidelines to Prepare INRMP, page 9	The installation is encouraged to work with other organizations, agencies, and individuals both off and on the installation throughout the process of preparing the INRMP. Building partnerships is essential for ecosystem management to function. It is especially critical that INRMP preparation be coordinated with those individuals responsible for the military mission. Military planners and users should be part of the preparation team, and not reviewers of the drafts. Their involvement should begin early in the planning process and continue throughout the execution phases.
Guidelines to Prepare INRMP, page 11	The process of preparing the INRMP must include coordination with relevant agencies, organizations, and public interest groups, as well as appropriate coordination within installation and Army chains of command. The INRMP should address relationships between other existing environmental programs on the installation, and the appropriate portions of these plans should be incorporated by reference.
Guidelines to Prepare INRMP, page 12	At installation where the ITAM program has been implemented, that program must be and integral part of the INRMP to assure direct support to the military mission.
Guidelines to Prepare INRMP, page 12	Natural resource programs described within the INRMP must be fully compatible with one another. Incompatibilities with other installation programs must be identified, and strategies must be presented to resolve these incompatibilities. This will assure complete integration with the installation's master plan, the facilities maintenance plan, integrate pest management plan, cultural resources management plan, endangered species management plan, training and range area management plan, mobilization and deployment plan, and information management systems. Information obtained during the environmental review process and other sources will be integrated into these plans as appropriate.
Handbook for DOD Natural Resource Manager, page 2-9	Communications between the NRMs, environmental managers, planners, and engineers within public works is important because there are often opportunities to work together on related projects. The support and involvement of many individuals within the public works group is critical to INRMP implementation.
Handbook for DOD Natural Resource Manager, page 2-9	It is equally important that the public works staff inform the NRM of any anticipated support they may require from the NRM, such as assistance with natural resource issues for NEPA evaluations or wetland permitting for construction activities.
AR 200-4; 1-9	Installation Commanders will: Ensure that cultural resources management is integrated with installation training and testing activities, master planning (AR 210-20), natural resources and endangered species management planning and programming to include Integrated Natural Resource Management Plans (AR 200-3) and the Integrated Training Area Management (ITAM) program.
AR 200-4; 2-1(c)	The key to the successful balance of mission requirements and cultural resources compliance and management responsibilities is early planning, and coordination to prevent conflicts between the mission and the resources.
AR 200-4; 4-1(a)	ICRMPs are internal Army compliance and management plans that integrate the entirety of the installation cultural resources program with ongoing mission activities, allow for ready identification of potential conflicts between the installation's mission and cultural resources, and identify compliance actions necessary to maintain the availability of mission essential properties and acreage.
AR 200-4; 2(a)(6)	Interface requirements between the cultural resources management program and other program areas (including but not limited to natural resources management, ITAM, master planning, facilities and housing and mission related training and testing activities) should be identified.

Source	Reference to Internal Coordination
PAM 200-4; 2-2	The ICRMP should be comprehensive and utilize the cultural landscape approach to integrate and identify linkages between all resource types.
PAM 200-4; 2-2(d)	The value of this approach to cultural resource management is that resources significance is not determined in isolation but within the entire context of the landscape and interrelationships among its components.
PAM 200-4; 2-3(b)(1)	Integration of the ICRMP into the installation planning process: ICRMP are a component plan to the installation Master Plan and should be prepared in conjunction with – Master planning (installation development and land uses); Natural resources management (Integrated Natural Resources Management Plans); Training management (Integrated Training Area Management and range management programs); Real property planning including facilities, housing, and installation operations and maintenance activities.
PAM 200-4; 2-5(a)	The ICRMP must consider plans developed though other installation planning documents and activities. The cultural landscape approach provides a means for integrating cultural resource requirements into those plans through its comprehensive approach and integration through Mylar overlay maps or a GIS system.
PAM 200-4; 2-5(b)	The ICRMP can be used to develop language that can be included in other planning documents and compliance agreements. This helps to incorporate cultural resources requirements into other programs, documents, and management plans (for example, INRMPs, Endangered Species Management Plans, Grazing Plans, Timber Harvesting Plans).
PAM 200-4; 2-5(d)	Prior to beginning an ICRMP, installation personnel should compile all relevant information available that could contribute to the ICRMP. This would include real property listings, installation history, installation maps, planning documents, previous cultural resources survey reports, GIS data, Environmental Compliance Assessment System audits, etc. It is also important at this time to begin assembling a team representing the installation offices that may be affected by, or can assist in the development of the plan. These include public affairs officers, legal council, engineers, military trainers and testers, etc.
AR 200-5; 2-6(d)	In addition, the Installation Pest Management Coordinator will coordinate the IPMP per AR 210-20 with respect to the installation natural and cultural resource management planning process and with the NEPA review requirements per AR 200-2.
AR 210-20; 3-7(a)	The RPMP and its components are decision documents and must be assessed for their environmental effects. The environmental assessment may be accomplished with either a programmatic or umbrella assessment of the effects of the entire RPMP, or an individual assessment of the effects of each component. The assessment is the product of an interdisciplinary team, with contributions from all elements of the Directorate of Engineering and Housing and the installation staff.
AR 210-20; 3-7(d)	Master Plan Environmental Overlay will graphically depict the environmental conditions at the installation. It will serve as the basis for the environmental quality, natural and cultural resources baseline analysis element of the LRC, as well as any expansion capability analysis. It is a compilation and synthesis of other plans; it will draw from the implementation of safety, environmental, natural, and cultural resource management programs.
Master Planning Instruction, page 1-7	A master planner has a complex job that involves higher headquarters, the installation commander and command group, military units, organizations, residents of the installation and surrounding communities, the USACE district, and the master planning office itself.
Master Planning Instruction, page 1-7	A master planner is seldom “the expert” in anything except project development and master planning. Instead a master planner must be an organizer, ambassador, coordinator, facilitator, interpreter, and a collector and repository of information.

Source	Reference to Internal Coordination
Master Planning Instruction, page 1-3	RPMP must analyze and integrate many operation and developmental plans in order to support the interests of installation engineering, housing and environmental functions, other installation primary staff functions, real property controlled by assigned organizations, and tenant activities, while respecting the guidance and interests of higher headquarters and local communities. These plans become contributing documents to the RPMP.
Master Planning Instruction, page 3-1	Land use planning is a mapping and planned allocation of the use of all installation lands based on established land use categories and criteria. The land use planning process is iterative because it needs feedback and ideas from installation residents and organizations. The plans must be prepared and made to work as a matter of “public business” by active solicitation of comments, holding public meetings, and keeping installation residents informed of the plan.
Master Planning Instruction, page 4-3	The nature of planning requires cooperation, communication and coordination among key personnel on-post and off-post. It is important that the installation environmental officer and master planner work concurrently in the RPMP development and solicit input from installation staff elements. This involvement includes the participation of both experts on the Environmental Quality Control Committee and the Installation Real Property Planning Board.
Master Planning Instruction, page 4-3	Items such as Historic Preservation Plans, Natural Resource Management Plans, BRAC Environmental Analysis, and EIS’s prepared in conjunction with mission changes, etc., could provide much of the data necessary to meet the RPMP environmental analysis requirements. Many of these studies take years to complete and often are ongoing. The emphasis should not be to redo all environmental analysis, but to search for information which is already available, use it as appropriate, identify additional data necessary and determine how to pursue obtaining this data.
Master Planning Instruction, page 4-3	Include the environmental analysis at earliest stages of the RPMP process to assure the installation’s planning requirements are met without delays or unnecessary adverse environmental impacts.
Master Planning Instruction, page 4-5	Again, emphasis should be placed on not redoing existing documents, but on using already existing documents where possible. Properly prepared environmental documentation will negate or minimize the needs for project level documentation as the master plan is executed.
Master Planning Instruction, page 4-15	The master planner’s responsibility is to coordinate all proponent real property planning needs, to identify planning alternatives and to consider the environmental consequence in recommending a plan to the commander. Given all this input, it is the master planner’s responsibility to develop or coordinate the development of the environmental documentation. Coordination is the key!
Master Planning Instruction, page 4-15	The master planning and environmental staff must start, at the earliest possible stages of the RPMP development, gathering environmental data from elements both on-post and in local communities
Master Planning Instruction, page 4-20	The Master Planner and the Environmental Officer should be working together all along to insure that the necessary environmental information is available when a RPMP update is required. The Master Planner should serve on the Environmental Protection Committee and the Environmental Officer should serve on the Real Property Planning Board.
Master Planning Instruction, page 4-20	Information from plans and programs required by other regulations will greatly reduce the amount of data collection required to update the RPMP. Additionally, updates to the RPMP documents may provide information necessary for the update of existing related plans. Once again, coordination is the key.

Source	Reference to Internal Coordination
Master Planning Instruction, page 8-15	The process to support RTLP facilities begins at the installation level with the coordinated project development efforts of trainers, real property master planners, environmental, natural and cultural resource managers, range officers, safety officers, force developers, facility engineers, and resource managers.
Master Planning Instruction, page 2-26	Contributing Information. The RPMP uses many different documents that address a broad spectrum of issues to define factors influencing expansion of the installation and to formulate the LRC, CIP, SRC and MC. Contributory plans that are essential for RPMP preparation and maintenance are: Existing Condition Maps, Real Property Inventory, Resource Management Plan (required by other regulation), Natural Resources Management Plan (required by other regulation), Historical Preservation Plan (required by other regulation), Training Management Plan (required by other regulation), Physical Security Plan (required by other regulation), Other Environmental, Natural, Cultural Resources Plans, Local Community Development Plans.
Master Planning Instruction, page 4-8	The preparation of the Environmental Baseline requires good environmental documentation from the installation's contributing plans and studies. Once again, coordination is the key, with a team effort between the installation's Environmental and Master Planning Offices. The environmental analysis should act as one of the major guides for the development of the installation Land Use Plan – critical to the total installation development. Information can also be obtained from NEPA documents prepared for other purposes.
Master Planning Instruction, page 8-14	Parts of the LRC used to develop and support training area and range program include the long-range analysis; the environmental quality analysis; capability analysis; expansion base; environmental overlay; and the land use plan.
AR 210-21; 3-1	The RTLP planning process is based on a methodology which integrates three primary considerations: mission support, environmental stewardship, and economic feasibility.
AR 210-21; 3-2	Planning the development or improvement of Army training areas is a continuous process and must be a coordinated effort.
AR 210-21; 1-8	The RTLP planning process will be a coordinated effort by an interdisciplinary team consisting of, at a minimum, trainers, installation real property master planners, environmental and natural/cultural resource managers, range officers, safety managers, force developers, facility engineers, and resource managers. These planners must develop an integrated planning document which addresses mission needs, environmental stewardship and economic feasibility; and quantifies existing assets.
AR 210-21; 1-5(a)	The <i>Range and Training Lands Program</i> (RTLP) provides central management and prioritization for planning, programming, design and construction activities for live-fire training ranges and maneuver training lands.
AR 210-21, Appendix D, D-3 (d)	Integrated Natural Resource Management Plan (INRMP) management practices can and should be used in the development of LURS, AAS, and related NEPA documents
AR 350-4; 1-6	The objectives of the Army's ITAM Program are to: Implement a management and decision-making process, which integrates Army training and other mission requirements for land use with sound natural resources management.
AR 350-4; 1-5	ITAM establishes a systematic framework for decision making regarding use of Army training lands at or controlled by Army installations. It integrates elements of operational, environmental, master planning, and other programs to identify and assess land use alternatives.

Source	Reference to Internal Coordination
AR 350-4; 1-11 (b)(6)	In accordance with the preceding statements, the installation element having primary ITAM responsibility will – Coordinate all ITAM related maintenance, repair and facility management work with the DPW, Coordinate all ITAM related natural and cultural resources project with installation’s environmental office, Participate in and coordinate with the development of the Integrated Natural Resources Management Plan (INRMP) and the Integrated Cultural Resources Management Plan (INCMP)
AR 350-4; 1-11(b) (14)(a)-(i)	In accordance with the preceding statements, the installation element having primary ITAM responsibility will – Manage and resource the TRI component of ITAM to ensure that its execution supports ITAM program objectives by – Integrating training requirements with land management, training management, and natural and cultural resources management processes. Providing information to commanders and units on land conditions and land use options. Coordinating usage with external organizations, supporting agencies, tenant activities, and higher headquarters. Supporting the development and/or revision of the INRMP and ICRMP by providing training requirements data from the Range Development Plan (RDP).
AR 350-4; 2-4(h)	ITAM core capability resourcing will: Integrate with other program resourcing requirements, such as range operations, environmental programs, and real property maintenance
AR 420-49; 3-2(a)	Army solid waste management is based in the concept of Integrated Solid Waste Management (ISWM). Full implementation of the ISWM concept and the coordinated evaluation of all elements of the solid waste stream from source generation to disposal will result in an effective installation SWM program.
AR 420-49; 2-10, 4-10, 5-10	The installation Resource Management Plan (RMP) is a consolidation of all DPW developed plans into a single integrated plan that reflects all major requirements, initiatives, actions and objectives at least 5 years into the future. Routine pavement (railroad and dam) M&R shall be incorporated into the installation RMP.

Appendix E: External Coordination

Source	Reference to External Coordination
AR 200-2 (32 CFR Part 651) 651.5 (b)	Communication, cooperation, and as appropriate collaboration between government and extra-government entities is an integral part of the NEPA process.
AR 200-2 (32 CFR Part 651) 651.1 (d)	The involvement of other agencies, organizations, and individuals in the development of EAs and EISs enhances collaborative issue identification and problem solving. Such involvement demonstrates that the Army is committed to open decision-making and builds the necessary community trust that sustains the Army in the long term. Public involvement is mandatory for EISs.
AR 200-2 (32 CFR Part 651) 651.1(d)	All NEPA analyses will be prepared by an interdisciplinary team. Partnering or coordinating with agencies, organizations, and individuals whose specialized expertise will improve the NEPA process.
AR 200-3; 11-1(b)	Installation will routinely seek informal FWS and NMFS review of installation plans. Working closely and cooperatively with the FWS and NMFS through informal consultation to develop mutually satisfactory courses of action is in the Army's best interest.
Guidelines to Prepare INRMP, page 3	As a minimum the scope of INRMP implementation should span the entire installation, but the consideration of the effects of that management should extend beyond installation boundaries.
Guidelines to Prepare INRMP, page 4	With good NEPA documentation to support natural resources management decisions, the INRMP should serve as an excellent reference for tiering future NEPA documents. It is important that the INRMP preparation process be directly linked with NEPA documentation. This does not mean that the general public or an environmental organization will dictate the content of the INRMP. Once the military mission and natural resources objective have been well identified, outside participation could be very helpful in identifying different alternatives to reach those objectives.
Guidelines to Prepare INRMP, page 9	The installation is encouraged to work with other organizations, agencies, and individuals both off and on the installation throughout the process of preparing the INRMP. Building partnerships is essential for ecosystem management to function.
Guidelines to Prepare INRMP, page 10	Once the mission and natural resource objectives have been drafted, concerned citizens and groups should be given the opportunity to express their interests. This can be done through public notices or meetings, as necessary, during the NEPA process.
Guidelines to Prepare INRMP, page 11	The process of preparing the INRMP must include coordination with relevant agencies, organizations, and public interest groups, as well as appropriate coordination within installation and Army chains of command.
AR 200-4; 4-2(a)(6)	The coordination processes within the installation and between the installation, MACOM, HQDA, regulatory agencies, and the interested public should also be identified.
PAM 200-4; 2-4(h)	The ICRMP should include a public involvement plan and address issues such as timing and specific individuals or parties that should be contacted, and involvement of interested parties. Public involvement plans for cultural resources should be incorporated to maximum extent possible with the public involvement requirements of NEPA. Integrating public involvement requirements into a single plan can result in significant time and cost savings.
AR 210-20; 2-1(b)	Commanders must establish their installations as valued neighbors and trusted partners with surrounding communities. Installations must be recognized as environmental stewards for future generations.

Source	Reference to External Coordination
AR 210-20; 2-8(a)	RPMPs for all continental United States installations will be submitted for intergovernmental review to the agencies that are affected by the RPMP. Installation commanders will coordinate their RPMPs with local communities.
AR 210-20;4-2(c)	The RPPB will coordinate installation development planning with the following elements: adjacent and nearby installations; other activities of the DOD and federal agencies; local agencies and planning commissions of neighboring cities, counties and states.
Master Planning Instruction, Page 1-7	A master planner has a complex job that involves higher headquarters, the installation commander and command group, military units, organizations, residents of the installation and surrounding communities, the USACE district, and the master planning office itself.
Master Planning Instruction, Page 1-7	A master planner is seldom “the expert” in anything except project development and master planning. Instead a master planner must be an organizer, ambassador, coordinator, facilitator, interpreter, and a collector and repository of information.
Master Planning Instruction, Page 1-25	After coordinating with the Public Affairs Office (PAO), establish a solid working relationship with local planning agencies. Acquaint their planners with your installation’s organizations and functions, chain of command, and some of the major programs affecting Army master planning.
Master Planning Instruction, page 1-3	RPMP must analyze and integrate many operation and developmental plans in order to support the interests of installation engineering, housing and environmental functions, other installation primary staff functions, real property controlled by assigned organizations, and tenant activities, while respecting the guidance and interests of higher headquarters and local communities. These plans become contributing documents to the RPMP.
Master Planning Instruction, page 4-3	The nature of planning requires cooperation, communication and coordination among key personnel on-post and off-post.
Master Planning Instruction, page 4-15	The master planning and environmental staff must start, at the earliest possible stages of the RPMP development, gathering environmental data from elements both on-post and in local communities.
Master Planning Instruction, page 4-8	The LRC is the examination of broad issues which affect the entire installation and its surrounding community.
Master Planning Instruction, page 4-8	Also, coordination with Federal, state and local environmental protection agencies can identify additional environmental issues on the installation as well as off-post environmental issues.
AR 210-70; 3-1	DOD will – Promote an intergovernmental partnership and a strengthened federalism by relying on State and local processes to coordinate proposed DOD land and facility plans and projects.
AR 210-70; 2-4(d)	Commanders of Installations will – Take part in the community planning process by giving information, policy, and position statements on programs and activities to concerned agencies.
AR 210-70; Appendix B	DOD Programs and Activities Included Under this Directive (4165.61): Installation comprehensive master planning, Military construction, Family housing, Real property acquisition and disposal, Withdrawals of public domain land for military use, Substantial changes in existing use of installations, Notices of intent, findings of no significant impact, and draft and final environmental impact statements, Air installation compatible use zone, Natural resource plans, Floodplain management and wetlands protection, Appropriate information and data for regional plans, programs, and projects.
AR 420-49; 2-1	Installations should participate in local, municipal, or regional utility planning organizations.

Source	Reference to External Coordination
AR 420-49; 2-1(g)	Installation should participate in local and regional utility resources planning organizations to become a good neighbor and partner in helping solve utility issues.
AR 420-72; 1-5(d)	Installations should participate in local, municipal, and regional transportation planning and dam safety organizations.

Appendix F: Reference to Master Planning

Source	Reference to Master Planning, Land Use Planning
PAM 200-1; 7-3	The installation EQCC will also monitor land use development plans, programs, and projects in the areas on and adjacent to the installation for land use changes that are not compatible with the noise environment.
PAM 200-1; 7-3	The primary strategy for protecting the mission of installations from the problems of noise incompatibility is long-range land use planning. Close coordination with the installation's master planning staff is needed when dealing with land use issues. Through a formal ENMP, Army installations try to prevent complaints through self-monitoring of operations and support of land use planning efforts by local government
AR 200-2 (32 CFR Part 651) 651.14 (a)	Early planning (inclusion in Installation Master Plans, INRMPs, ICRMPs, Acquisition Strategies, strategic plans, etc.) will allow efficient program or project execution later in the process.
AR 200-2 (32 CFR Part 651) 651.10	The general types of proposed actions requiring environmental impact analysis under NEPA, unless categorically excluded or otherwise included in the existing NEPA documentation, include: New management and operational concepts and programs, including logistics; RDT & E; procurement; personnel assignment; real property and facility management (such as master plans); and environmental programs such as Integrated Natural Resource Management Plan (INRMP), Integrated Cultural Resources Management Plan (ICRMP), and Integrated Pest Management Plan.
AR 200-2 (32 CFR Part 651) 651.14	Army proponents are normally required to prepare many types of management plans that must include or be accompanied by appropriate NEPA analysis.
AR 200-3; 11-1(a)	The key to successful balancing of mission requirements and the conservation of listed species is long-term planning and effective management to prevent conflicts between these competing interests
AR 200-3; 2-2(b)	Natural resources management plans should be incorporated into Installation Master Plans as a supplemental document, or "component plan" according to AR 210-21, to allow for consolidation when developing the master plan NEPA document.
AR 200-3; 5-2(b)(1)(b)	The Natural Resources Management Plan (including the Forest Management section) is to be integrated with the Installation Master Plan EA/EIS.
AR 200-3; 7-2	Recreational facilities will be based upon formal design in accordance with the Installation Master Plan. Development of the General Recreation Plan portion of the Installation Master Plan will be coordinated with the Integrated Natural Resource Management Plan and will give attention to land use capability and limitations when determining recreation activities to be conducted.
AR 200-3; 9-1(a)	The natural resources management plan will be a component and supporting element of the installation master plan. New and continuing mission activities that impact on natural resources will be coordinated with appropriate natural resources managers.
Handbook for DOD Natural Resource Manager, page 2-9	Individuals with key INRMP responsibilities should be kept apprised of their roles in INRMP implementation so that they may plan and budget their time and resources. For example, the NRM should work with master planning to identify anticipated mapping or GIS needs – both already available GIS and mapping information, and any new maps or needs identified in the INRMP.

Source	Reference to Master Planning, Land Use Planning
Handbook for DOD Natural Resource Manager, page 2-9	The INRMP should be fully integrated with the installation master plan. The installation master planner, who is usually located within public works, should be very familiar with the INRMP because he or she designates land use. Master plans typically extend to a 20- to 30-year period whereas the INRMP is a recently developed plan that typically covers a 5-year period. The INRMP may identify designated sensitive, preservation, conservation, or other areas with land use restrictions. It is imperative that the NRM coordinate such restricted areas with the master planners so that, at a minimum, they can be incorporated into the master planner's maps or GIS.
AR 200-4(a)	As a component of the installation master plan, the ICRMP is the installation commander's decision document for cultural resources management actions and specific compliance procedures.
PAM 200-4; 2-1(a)	Planning and management of cultural resources should occur within the context of a comprehensive and integrated land, resource, and infrastructure approach that adapts and applies principles of ecosystem management. This involves planning and management of cultural resources by reference to the landscape.
PAM 200-4; 2-1(c)	Cultural and natural resources distribution maps generated by installation GIS systems or through mylar overlay maps provide the data for systematic analysis of spatial patterning in land use through time. This has direct implications for land management and military training. Time and funds can be maximized by a single comprehensive planning approach based on sound data and analysis.
PAM 200-4; 2-3(b)(1)	Integration of the ICRMP into the installation planning process: ICRMP are a component plan to the installation Master Plan and should be prepared in conjunction with – Master planning (installation development and land uses); Natural resources management (Integrated Natural Resources Management Plans); Training management (Integrated Training Area Management and range management programs); Real property planning including facilities, housing, and installation operations and maintenance activities.
AR 200-5; 2-6(d)	In addition, the IPMC will coordinate the IPMP per AR 210-20 with respect to the installation natural and cultural resource management planning process and with the NEPA review requirements per AR 200-2.
AR 210-20; 2-7(c)	Installation environmental, historic preservation, and natural resource management plans will support the real property master planning process
Master Planning Instruction, page 1-1	Installation real property master planning is based on assigned installation missions and guidance contained in a variety of plans and other documents. These references establish trends, strategies, goals and other objectives upon which Army planners may base long-range and near term plans for economical, environmentally responsible, and effective support of Army goals, objectives, missions and populations.
Master Planning Instruction, page 1-3	RPMP must analyze and integrate many operation and developmental plans in order to support the interests of installation engineering, housing and environmental functions, other installation primary staff functions, real property controlled by assigned organizations, and tenant activities, while respecting the guidance and interests of higher headquarters and local communities. These plans become contributing documents to the RPMP.

Source	Reference to Master Planning, Land Use Planning
Master Planning Instruction, page 3-1	Land use planning is a mapping and planned allocation of the use of all installation lands based on established land use categories and criteria. The land use planning process is iterative because it needs feedback and ideas from installation residents and organizations. The plans must be prepared and made to work as a matter of “public business” by active solicitation of comments, holding public meetings, and keeping installation residents informed of the plan.
Master Planning Instruction, page 4-3	The installation master planner is the keeper of all RPMP documents and acts as a facilitator/advisor for the development of the RPMP. However, the environmental officer is responsible for all installation environmental compliance issues to include conservation, pollution prevention and restoration of contaminated sites and knowledge of past and current environmental analysis and requirements
Master Planning Instruction, page 4-15	The master planner’s responsibility is to coordinate all proponent real property planning needs, to identify planning alternatives and to consider the environmental consequence in recommending a plan to the commander. Given all this input, it is the master planner’s responsibility to develop or coordinate the development of the environmental documentation. Coordination is the key!
Master Planning Instruction, page 8-15	The process to support RTLP facilities begins at the installation level with the coordinated project development efforts of trainers, real property master planners, environmental, natural and cultural resource managers, range officers, safety officers, force developers, facility engineers, and resource managers.
Master Planning Instruction, page 1-3	The RPMP is a record of the planning process in graphic, narrative, and numeric form, portraying the present composition of the installation, the present allocation of real property resources, the potential for expansion, and the plan for its orderly management and development to support its missions in the most efficient and economical manner.
Master Planning Instruction, page 1-3	The RPMP is a planning framework within which Army decision-makers establish future directions for utilizing, expanding or downsizing installations; manage limited real property resources; coordinate installation development with local community interests; anticipate controversial actions; guide construction and acquisition programming; manage facilities utilization; develop interim actions that can be used until planned action can be accomplished; and plan the installation’s real property maintenance activities (RPMA).
AR 215-1; 10-4	Maintenance, repair, and construction requirements are coordinated with the installation DPW. All existing and planned MWR facilities are included in the installation master plan to ensure that funds are programmed for design, site preparation, project supervision, inspection, and acceptance.
AR 420-10; 3-1	Directors of Public Works are the principle installation staff officers for organization, control and accomplishment of installation facilities engineering, housing, and environmental management activities
AR 420-10; 3-2	Public works organizations will accomplish short- and long-range planning, with installation commander’s approval, for future development of land, facilities, and infrastructure of the installation, following the master planning methodology of AR 210-20. Plans will be prepared to support acquisition, management, accountability, and disposal of real property; and to serve as a framework for development and operation of the installation, and will identify the major work to be done to real property to assure that resources are not spent on facilities that are not essential to missions and future development of the installation.
AR 420-49; 4-3(b)	The Water Resources Management Plan should be reviewed and updated, as required, with the Capital Investment Strategy in accordance with AR 210-20.

Source	Reference to Master Planning, Land Use Planning
AR 420-70; 2-2 (a)(2)	Relocated real property facilities will be sited according to the approved installation real property master plan.
AR 420-72; 2-10(b)	Minor construction projects for roads, airfields, and other surfaced areas will conform to the Master Plan for the installation in accordance with AR 210-20.
AR 420-72; 3-7(e), 4-10(e), 5-10(e)	Minor construction projects for railroad track will conform to the master plan for the installation in accordance with AR 210-20.
PAM 600-45; 3-13	Potential risks on installations such as high noise levels, soil erosion, hazardous waste disposal areas, radon and asbestos should be identified and included in the Installation Master Plan and Design Guide.
PAM 600-45; 4-1	The Community Excellence Plan is an integrated component of the Installation Master Plan which includes the IDG, the Operations and Maintenance Work Plan, etc
PAM 600-45, Section II, N-19	As part of the ACOE program, the IDG is now a mandatory component of an installation's master plan.