CHAPTER 1

General Considerations

1.1 Purpose. This document provides general guidance for the rehabilitation of existing and the design and construction of new recreation areas and facilities, the provision of customer services, and recreation program evaluation activities at recreation areas managed by the U.S. Army Corps of Engineers (USACE). The overall purpose of this document is to establish a uniform level of quality nationwide by which Corps-managed parks will meet the needs of current and future park customers. The criterion herein applies to both new recreation areas and the rehabilitation of existing areas, and serves primarily as a conceptual design document for use by operations personnel when developing these public facilities. However, this document is not intended to circumvent the preparation of detailed final design plans for architectural/engineering features in accordance with applicable engineering or technical manuals and design standards.

1.2 Applicability. This manual applies to all Civil Works field activities responsible for the evaluation, design, construction, renovation, rehabilitation, management, and administration of all new or existing recreation developments on Government lands. Application of these standards in conjunction with initial development, major maintenance, or rehabilitation of Corps operated areas, including the replacement of individual sites or support items within a recreation area, shall provide system-wide consistency for planning, design and implementation of improvements, as well as provide a consistent level and quality of customer service.

1.3 Distribution Statement. Approved for public release, distribution is unlimited.

1.4 References. References are at Appendix A.

1.5 Glossary. A glossary of terms is at Appendix B.

1.6 Drawings. Drawings are at Appendixes C-H.

1.7 Photos. Photos are at Appendixes I-Q.

1.8 Background. As available land becomes more of a precious commodity, its creative use and maintenance becomes crucial to preserving and enhancing our quality of life. Outdoor spaces

are evolving to assume a more prominent and integral part of our daily existence. These facts dictate the need for quality outdoor recreational facilities that enhance the public enjoyment of the abundant natural, cultural, and historical resources of the United States. The public desires recreational spaces that allow contact and enjoyable experiences with these resources yet are not detrimental to fragile natural systems or a danger to important ecosystems, or significant cultural and historical resources.

1.9 Standardization. The Corps of Engineers is a major provider of outdoor recreation nationwide. It is the intent of this guidance to promote consistency in the provision of facilities and services to customers, yet allow flexibility to meet regional requirements based on environmental conditions and customer needs. Three levels of guidelines are presented herein for design, customer service, and evaluation procedures:

1.9.1 Required. Features that shall be included.

1.9.2 Recommended. Features that should be included if possible.

1.9.3 Optional. Features that may be included for customer convenience. The options offered for consideration are by no means an all-inclusive list of the features that may be applied.

1.10 Design Exemptions for Required Standards. It is recognized that circumstances may exist where application of certain required design standards may be impractical for reasons such as legal or political considerations. Design options that do not meet “required” standards may be used with approval from the District Chief of Operations. Exemptions should only be used in rare situations, must be fully justified, and the reason for the deviation clearly documented in writing. Copies of such exemptions shall be kept on file by the requesting office and the District Office. A sample exemption is at Appendix R.

1.11 Conceptual Plan. All types of development should begin with a conceptual plan. The conceptual plan should cover the entire park, including future plans, rather than considering work items on a piecemeal basis. The conceptual plan can be phased to accommodate budget requirements and should show the general layout of proposed work and include items such as the locations of roads and parking lots, structures, utility buffer areas, and other facilities such as playgrounds, playfields, and swim areas. Generally, the Operations Manager and onsite

operations staff should program/budget the work and ensure compliance with the Operational Management Plan (OMP) and Master Plan or General Design Memorandum. Other District elements will be consulted during this early phase.

1.12 Project Management Business Process. The design of all parks shall be accomplished through a fully coordinated team approach. A successful park design depends on the team's analysis and refinement of the initial conceptual plan into a completed design for improvements. The Project Delivery Team (PDT) should be fully empowered and include professionals with expertise in the Project Management process, Engineering, Planning, and Operations, and technical disciplines such as landscape architecture, civil engineering, recreation area management, environmental stewardship, operations and maintenance, and public safety. It is essential that a park staff representative serve on the design team from inception to completion, and that the PDT conduct site visits during the design and construction phases. Customers and stakeholders should also be involved in the planning phase through surveys or interviews. An example of a format that may be used for customer input is included as Appendix S.

1.13 Guiding Principles for the Design of Recreation Areas and Facilities. Although some of these items are discussed in greater detail in later sections, general considerations that each PDT shall address include:

1.13.1 Considering functional use, creative design, environmental harmony, and economy of construction.

1.13.2 Maintaining health, safety, security, and comfort of the customers in all aspects.

1.13.3 Meeting local and regional recreational needs, considering the present requirements as well as recreation trends and potential future needs.

1.13.4 Creating user friendly areas and facilities to serve all populations. This includes incorporation of universal access design principles to address accessibility and user diversity.

1.13.5 Considering economy of scale and life cycle costs. It is generally more cost effective to develop, operate and maintain a large comprehensive site than several smaller single use areas.

1.13.6 Enhancing revenue generation.

1.13.7 Basing the design of facilities on an area's anticipated average weekend day visitation during the peak season of operation.

1.13.8 Protecting resources from physical and aesthetic degradation. This includes correction of existing environmental problems such as erosion, siltation, soil compaction and vegetation loss.

1.13.9 Incorporating off-the-shelf products whenever practical.

1.13.10 Correcting existing design problems. This includes eliminating conflicting uses created by older designs that combined day use and camping within an area.

1.13.11 Providing for ease and economy in cleanup and maintenance.

1.13.12 Meeting stated management, resource use and sustainable development goals.

1.14 Master Plans. Developments shall be in accordance with the OMP and approved project master plans. If the proposed development is not included in the master plan, a master plan supplement is required.

1.15 Sustainable Design and Development (SD&D) and Environmental Management System (EMS). All park modernization and rehabilitation efforts shall employ a holistic approach to the design, construction, and operations of the engineered environment and shall be incorporated in an environmentally responsible and energy-efficient manner. Facilities shall meet current needs without compromising the ability of future generations to meet their needs.

1.15.1 SD&D includes efficient use of natural resources along with better performing, more desirable, and more affordable infrastructure and buildings. Some examples of SD&D techniques include incorporating natural lighting (skylights), solar heating and cooling units where efficient, natural ventilation, water-efficient plumbing fixtures, minimal disturbance of vegetated soils, indigenous plants to limit irrigation requirements, and long-lasting and/or recycled

materials and equipment. Contracting Division should be contacted for current procurement requirements. Additional SD&D guidance may be obtained through USACE Engineer Technical Letter 1110-3-491, "Sustainable Design for Military Facilities."

1.15.2 All new and renovated facilities shall comply with EMS standards. Environmental performance and continual improvement will be considered for all park area operation and maintenance activities. Further information is posted on the NRM Gateway Website on the "Environmental Management System (EMS)" page, at http://corpslakes.usace.army.mil/employees/envcomp/ems.html

1.16 Carrying Capacity. The PDT shall determine the carrying capacity to accommodate the anticipated number of users while minimizing impacts on the resources. Generally, geographical conditions, customer needs, and operational considerations will determine the carrying capacity. Facilities should be designed for anticipated average visitation on a weekend day during the peak season of operation. Future use trends should be considered to ensure adequate scale of development and anticipated changes in demographics and customer desires.

1.17 Revenue Generation. Special design consideration shall be given to areas where use fees will be charged. This generally relates to convenient fee collection and the proper separation of fee activities from nonfee activities.

1.18 Cultural, Historic, and Environmental Resources. Designs shall minimize the impact of development on cultural, historic, and environmental qualities of the site. Coordination with representatives from federal and state cultural, historic, and environmental agencies in the early stages of evaluation and design is encouraged. The PDT should become familiar with local environmental conditions and development requirements to preclude difficulties in obtaining certain permits and clearances prior to the construction phase.

1.19 Universal Accessibility (UA). Employing UA principles in facility design and delivery of customer services provides greater benefit to a wider range of users, enhances public participation, promotes choice and alternatives, lessens hazard risk to the user, minimizes physical effort, and provides the same opportunity for all users. It should not be assumed that features such as accessible picnic tables are needed only at fully accessible picnic sites. If a person with a disability has the strength or can get assistance in reaching what would

appear to be an inaccessible site, it will be a benefit to have appropriate equipment and facilities at the site once they arrive. Designing facilities to be UA from the beginning generally has minimal impact on the total construction costs of a new facility.

1.19.1 Applicable UA Standards. The term "Universal Accessibility" in this document refers to the most stringent current standards that apply. Current Corps policy and access to these standards are posted on the NRM Gateway Website on the "Accessibility" page, "Policy and Procedures" at http://corpslakes.usace.army.mil/employees/policy.cfm?Id=access&Code=All.

1.19.2 UA Facilities. UA facilities include all routes between accessible facilities and all types of facility support amenities. All new and updated facilities shall be designed to be universally accessible. Any new recreation facility purchases, such as picnic tables, grills, playground equipment, utility tables, and water fountains shall specify universally accessible items.

1.19.3 UA Programs. UA also includes programmatic access so that customers have full access to customer services such as interpretive programs and public information postings.

1.20 Codes and Other Requirements. The PDT shall comply with all applicable local, state, and federal codes, policies, and regulations throughout the design of recreation areas or facilities. Many local and state codes such as building codes, fire codes, electric codes, and universal accessibility requirements are more stringent than federal codes and standards. The more stringent code or standard shall be utilized. More recently dated standards shall supercede those cited herein, and such updates only need to be documented appropriately in the project files. Codes and requirements that will be followed include, but are not limited to:

- Occupational Safety and Health Administration (OSHA).
- National Electric Code (NEC).
- National Fire Prevention Code.
- American National Standards Institute (ANSI).
- USACE Engineer Pamphlet (EP) 310-1-6a and 6b, "Sign Standards Manual".
- USACE Safety and Health Requirements Manual, EM 385-1-1.

- USACE Technical Instructions (TI) 811-16, Lighting Design.
- Universal Accessibility Requirements.

1.21 Commercial Products. Emphasis should be placed on purchase and incorporation of off-the-shelf commercial products when available. Virtually all types of recreation facilities, structures, and equipment offering multiple design options, durability, and quality are available through commercial vendors or through General Services Administration. Most facilities, structures, and equipment can be made to order to include style, materials, texture, color, and numerous other options that have been proven in the market place across the country. Benefits of using off-the-shelf commercial products include:

1.21.1 Reduction of design cost.

1.21.2 Proven design and durability.

1.21.3 Reduced construction time.

1.21.4 Lower cost.

1.21.5 Orders for prefabricated facilities can be placed at any time of the year and change orders can be made prior to shipment.

1.21.6 Many of the products are modular in design and can be expanded or modified if the need occurs.

1.21.7 Most commercial products come with a warranty.