13. Recreational Facilities. The Introduction (Chapter 1) for these design data collection guidelines contains additional information concerning: preparing a design data collection request, design data collection requirements, and coordinating the design data collection and submittal. This section lists data required for design of recreation facilities. Small scale site development, such as a single campground loop, would need much of the data listed below but only for the area encompassing and immediately surrounding the project site.

A. **General Map(s) Showing:**

(1) A key map locating the general map area.

(2) Restrictions to land uses, such as easements and rights-of-way.

(3) Land uses in general terms, with private land labeled "private" and public land labeled by governmental agency acronym.

(4) Locations for borrow areas, storage of construction materials, and sites for stockpiling of topsoil.

(5) Limits of construction or physical boundaries of the proposed site development.

B. **Topographic Map Showing:**

(1) Site topography covering an area large enough to include all potential site development. The extent of the topography should include the access road and the probable site entrance area. Contours at 2-foot intervals or 1-foot intervals if the site is very flat. If the project area is small, a contour interval of 1 may be needed. The data should be in the form of an electronic drawing file that can be used to create a base map. All points contained in the drawing file should have a z axis value which correspond to onsite elevation.

(2) Underwater contours with the elevation referenced to upland elevation, if needed for marina design.

(3) Surface drainage features such as streams and ravines and any existing bridges or culverts.

(4) Existing built site features, such as roads, parking, turnarounds, buildings, structures, power lines, buried utility lines and tanks, campgrounds, picnic areas, and marinas.

C. **Narrative and Photographic Description of Site Showing:**

(1) **Narrative Description of the Project Area.** This should be a brief description of the surrounding area, the nearest population center, its size, and the nature of the surrounding context. A description of existing recreation facilities, capacity, level and season of use, condition of structures and roads.

(2) **Color Photographs of the Site**. All photos should be keyed to the site map. Photos should show problem or hazardous areas, location of proposed facilities, location of possible access points to the site from existing routes, and close ups of existing features such as buildings or structures. These photos should also show favorable off-site views that should be preserved and considered when siting buildings. Photos should also be taken of unfavorable onsite features that should be screened from view or otherwise considered when siting facilities. Photos should show the condition of existing roads and buildings, if possible.

(3) **Aerial Photos**. 8- x 10-inch size, color if possible, at a scale which allows discerning the nature of the vegetation.

D. **Biological Data:**

(1) **Vegetation.** Narrative description of site vegetation, particularly density and distribution.

(2) **Wildlife.** List of threatened and endangered animals that have migration routes, critical habitat, or outstanding habitat in the immediate area. Map of any species' migration patterns, critical habitat, and outstanding habitat that occurs on or adjacent to the project site. List of species which may pose a danger to users or which may require special accommodations in site design, for example bears or moose.

(3) **Wetlands.** Map of wetlands outline showing seasonal fluctuation of the water level.

E. **Geologic and Soils Data:**

(1) Evidence of seasonal or occasional event of surface runoff beyond the banks of local streams, and a map showing where the water flows.

(2) Soil survey and map of soil texture for determining susceptibility of soils to erosion, and suitability of soils for building foundations, roads, trails, and leach fields.

(3) Areas of existing erosion or high soil moisture, which should be avoided.

(4) Seismic stability in areas prone to earthquakes.

(5) Evaluation of potential landslide, snowslide, and rock fall areas.

(6) Availability of potential fill materials on site and nearby, and a description of the type of materials.

F. **Weather Data.** Direction, intensity, seasonality, and daily fluctuations of wind. Probability of excessive blowing dust or sand.

G. **User Data:**

(1) Anticipated user activities and needs.

(2) Length of stay - a few hours, overnight, few days, etc.

(3) Destination or stop-over site.

(4) Seasons of use and differing uses by different users as the seasons change.

(5) Number of users expected at one time to use the site for an average weekend; for a holiday.

(6) Type of equipment the user is expected to bring along and the spatial/physical site requirements to accommodate that equipment.

(7) Utility requirements of the user (water, electricity, sewer).

H**. Utilities:**

(1) **Electricity:**

(a) Source of electricity: location of the point where the connection to power utility will be made, the capacity, and type-single phase/three-phase.

(b) Location of existing transformers.

(c) Route of proposed distribution lines and whether they are to be overhead or underground.

(d) Feasibility of applying solar collectors or adaptors to buildings.

(e) Feasibility and expense of generating power onsite with wind power.

(2) **Potable Water:**

(a) Source of existing potable and non-potable water.

(b) Route and sizes of existing pipes.

(c) Proposed distribution routes.

(d) Available pressure (pounds per square inch) and flow (gallons per minute).

(e) Location of potential or existing wells, treatment facilities, and holding tanks, if applicable.

(3) **Storm Water Runoff:**

(a) Conditions of the drainage plan, if applicable.

(4) **Sewage Disposal Systems:**

(a) **Pull-away systems:** spatial and access requirements of the pumping trucks which will service the vault toilet buildings and any retaining tanks. Includes turning radii and road gradient limitations.

(b) **Onsite disposal systems consisting of treating onsite (primary treatment plus a leach field):**

- Necessary slope, soil, and spatial quantity requirement.
- Spatial requirements for future expansion of the system.
- Spatial requirements for future expansion of the system.
- Spatial and access requirements of the vehicles or equipment which will be needed to service the treatment system.

I. **Roads Data:**

(1) **Existing Roads:**

(a) Location and vehicle capacity of existing access route to site.

(b) Road and shoulder widths, depths, and materials.

(c) Physical limitations to primary road.

(2) **Proposed Roads:**

(a) Turning radii required for roads and parking lots, based on vehicles which are anticipated to use the facility.

(b) Wheel loading of anticipated vehicles that will use the facility.

(c) Width, depth, length, and materials needed for new roads.

(d) Proximity of source of base course materials.

J. **Program Requirements.** As identified in the appropriate Resource Management Plan or other planning effort.

(1) Desired level of development, for example: urban, rural, semi-primitive.

(2) Numbers and locations of proposed facility elements, for example: numbers of pull-through sites with shade shelters; number of shade shelters and group use areas; number of sites with full utility hook-ups; number of day-use sites.

(3) Carrying capacities of the particular site, for example: proposed density of campsites or maximum number of boats in the marina and on the reservoir.

(4) Facilities that need to be replaced or upgraded to meet Reclamation and local codes and standards.

(5) Outlines of restricted use areas, such as non-motorized areas.

(6) Square footage of new building and size of its footprint. Number of parking spaces needed for building.

K. **Concessionaire's Requirements:**

(1) Type of equipment the user is expected to rent onsite from the concessionaire and the spatial/physical site requirements and location(s) to accommodate the storage and servicing of that equipment.

(2) Utility requirements of the concessionaire, e.g., gas and phone.

L. **Facility Operations and Maintenance Requirements:**

(1) Fee collection methods and location requirements for facility security. Include methods to achieve security.

(2) Requirements to close off one part of a facility from another.

(3) Requirements for vandal-proof materials and types of construction materials needed or preferred.

(4) Requirements for fire safety, such as the need for fire trucks and ambulances to traverse the site. The need for emergency vehicles to be able to reach facilities and acceptable limits of access.

(5) Roads and buildings needed for general maintenance of the area and their associated spatial and functional requirements.

M. **Revegetation and Landscaping Needs:**

(1) Availability of nursery plants and grass and forb seeds of appropriate species for revegetation.

(2) Availability of water to use for irrigation.

(3) Need to stabilize eroding streambanks or lake shores. This includes the treatment desired, whether it is hard surfacing or live material. Also includes a local source for riparian plant materials which can be used for cuttings, if known.

(4) Need for design of erosion control plan including silt fences, temporary seeding, erosion control blankets, etc., during construction to mitigate soil erosion and potential siltation of streams and water bodies.

N. **Dock and Marina Data:**

(1) Site topography covering an area large enough to include all potential marina development sites, with contours at 2-foot intervals or 1-foot intervals if the site is very flat.

(2) Underwater contours with the elevation referenced to upland elevation.

(3) Site exposure and prevailing winds.

(4) Location of vertical and horizontal obstructions in the proposed marina development area.

(5) Location, proximity, and size requirements of parking, including vehicles and vehicles with boat trailers.

(6) Condition of roads and their suitability for use by vehicles towing boat trailers.

O. **Miscellaneous Data:**

(1) Reservoir water surface levels – at season's highest, average summer pool, and at season's lowest.

(2) General condition of existing buildings, roads, recreation facilities, utility systems.

(3) Description and map of archeologically significant artifacts.

(4) Comments on any ecological, aesthetic, or other environmental aspects peculiar to this location which would affect layout or conceptual design.

(5) Unusual local pests that would influence type of construction materials.