

- 3. Visitors Centers.** 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. The following is a list of possible data required for design of visitors centers and additions, modifications, or rehabilitations to existing visitors centers. The size and complexity of the structure should govern the amount and detail of the design data required.

**A. Design Narrative:**

- (1) Discuss the determination of the need for public visitation.
  - (a) Uniqueness or informational/educational aspects of the project which would merit public visitation.
  - (b) Description of desired facilities that are not currently available in the area.
- (2) Visitation projections.
  - (a) Accessibility to the site via regional transportation agencies and routes and the proximity of the site to urban areas.
  - (b) Visitor load projections.
  - (c) Type and proximity of other recreation destinations in the region.
  - (d) Anticipated parking needs (types of vehicles and numbers of each)

**B. General Purpose and Functional Requirements of the Visitor Facilities:**

- (1) General outline of interpretive plan.
- (2) General space requirements for storage, curatorial, staff, public, and interpretive exhibit areas.
- (3) Parking facilities.
- (4) Periods of operation (daily and weekly) and anticipated staffing needs.
- (5) Public needs (restrooms during non-operational hours, regional information, food services, gift shops, and educational facilities).
- (6) Discuss the impact public visitation may have on the project including overlooks, tour routes, etc.
- (7) Discuss utilities including: water availability for domestic and fire protection, wastewater, air-conditioning, and security requirements.

- (8) Any special environmental control needs such as special heating, ventilating, and air-conditioning requirements for artifact preservation.
- (9) Special accessibility needs or programs such as trails for the blind.

**C. General Map Showing:**

- (1) A key map locating the general map area within the State.
- (2) The structure site.
- (3) Existing towns, highways, roads, railroads, public utilities, townships, range, and section line.
- (4) Locations of construction access road and permanent roads; and sites for required construction facilities.
- (5) Sources of natural construction materials and disposal areas for waste material, including the extent of mitigation required.
- (6) Existing or potential areas or features having a bearing on the design, construction, operation, or management of the project feature such as: recreation areas; fish and wildlife areas; building areas; areas of cultural sensitivity; and areas of archeological, historical, and mining or paleontological interest.

**D. General Description of Local Conditions Covering:**

- (1) The capabilities and constraints imposed by local shipping, transportation facilities, adjacent land uses, and easements.
- (2) Availability of housing and other facilities in nearest and need for permanent housing for operating personnel.
- (3) Availability or accessibility of public facilities or utilities such as: water supply, sewage disposal, telephone and electric power for construction and for operation and maintenance.
- (4) Climatic conditions that will affect design or construction procedures such as: amount, rate, and distribution of rain and/or snow; ice conditions; summer and winter temperatures, with extremes; and extreme wind velocities and prevailing directions. (Extensive tabulations are not necessary.)

**E. Survey Control.** Field surveys should be done to obtain horizontal and vertical control in areas where relief is extreme and/or where a high level of accuracy is

required for layout studies. Use of any existing coordinate system or vertical control system is acceptable, but tying to the State plane coordinate system is recommended.

- F. **Topographic Map.** A topographic map covering an area sufficient to include all practical arrangements and features of the visitor facilities and site access roads. Show all manmade features in the included area on the map. A scale of 1 inch equals 50 feet with a 2-foot contour interval is suitable for most structures. The scale of the contour interval and detail should be based on the conditions and need at each particular site. Photographs of the sites are desirable, in color, if available, with proposed structures marked in ink. Aerial photographs of the site covering the same area described above should also be provided.
- G. **Foundation Data.** The amount and detail of foundation data required for a feasibility design will vary greatly because of the wide range of size and complexity encountered in visitors centers. The guiding criteria should be to provide sufficient data to allow the designer to determine the type of foundation required for the structure and to identify major foundation problems. Adequate foundation data may be obtained for small structures from an inspection of surface conditions and one or two exploratory holes or test pits to determine type of overburden and foundation conditions some distance below the base of the structure. These data, and any other data in the following paragraph that are relevant, along with a brief description of geologic conditions of the site, can be included in the design data.

For larger and more complex structures, a more comprehensive geologic program will be required, including a geologic report. For structures of this magnitude, a field conference should be held, including an inspection of the site to determine the geologic investigations program. In developing the geologic program and in preparing the geologic report, the following should be considered:

- (1) A resume of regional geology.
- (2) A description and interpretation of site geology including physical quality, excavation characteristics and geologic structure of the foundation strata, ground water and seismic conditions, existing and potential slide areas, and engineering geologic interpretations as appropriate.
- (3) Geologic logs of all subsurface exploration. All exploratory hole locations and elevations should be based on the same survey control system.
- (4) A geologic map, plotted on the topographic map of the site, showing surface geology and the location of geologic sections, soil profiles, and all subsurface exploration.
- (5) Geologic sections, with soil profiles as required, showing known and interpreted subsurface conditions.

- (a) A classification, in accordance with the Unified Classification System, of the soil in each major stratum.
  - (b) A description of the undisturbed state of the soil in each major stratum.
  - (c) A delineation of the lateral extent and thickness of critical, competent, poor, or potentially unstable strata in foundations and excavation slopes, especially those to be permanently exposed.
  - (d) An estimate or a determination by limited tests of the significant engineering properties of the strata, such as excavation characteristics, density, permeability, shear strength, and consolidation or expansive characteristics; and the effect of structure load, changes in moisture, and fluctuations of permanent rise of ground water on these properties.
- (6) Samples of foundation strata as needed for visual examination or laboratory testing.
- (7) A determination of natural ground water conditions at the site.
- (8) Bedrock. Note geologic sections and soil profiles in (5) above.
- (a) A description of the contour of bedrock surface, thickness of weathered, altered, or otherwise softened zones, and other structural weaknesses and discontinuities.
  - (b) A delineation of structurally weak, pervious, and potentially unstable zones and strata of soft rock and/or soil in foundation or excavation slopes, especially those to be permanently exposed.
  - (c) A determination by limited tests of the significant engineering properties of the bedrock such as density, excavation characteristics, absorption, permeability, shear strength, and strain characteristics; and the effect of structure load, changes in moisture, and fluctuations or permanent rise of ground water on these properties.
- (9) **Seismotectonic Data.** Provide background information on the seismic loadings in the area and recommendations for coordination of data collection.

**H. Construction Materials Including:**

- (1) Inventory of available impervious and pervious embankment materials and rock for riprap and rockfill.

- (2) Information on concrete aggregates.
- (3) Data on commercial concrete plants within hauling distances from the site.
- (4) A list and description of any preferred building materials and their availability.
- (5) Information on sources and character of acceptable road surfacing materials, if required.
- (6) References to results of previous tests of materials including service history and photographs of sources.
- (7) Report alkali conditions in soil and water which might affect the choice of sulfate resisting cement.
- (8) Requirements concerning stockpiles and suggested permanent stockpile locations.

I. **Environmental Considerations.** Design data should include, as a minimum, the environmental issues and/or requirements that would affect the visitors center design and a brief description of the setting and the resources that would be affected by the proposed visitors center. The emphasis should be on those areas within the range of alternatives open to the designers in developing a structural and architectural design. The following items should be considered in preparing design data:

- (1) Cultural (archeological, historical, and paleontological) resources of influence within the project area.
- (2) The need for blending the structure with surroundings.
- (3) Landscaping and other special environmental requirements and commitments.
- (4) Impact of moving construction materials on existing road facilities, including consideration of such factors as traffic congestion, effect on road condition, air pollution, etc.
- (5) Impact of increased pedestrian and auto traffic on existing road and commercial facilities.
- (6) Amount of power required for operation of the visitors center.
- (7) Erosion and sediment control.
- (8) The need for a field conference to resolve critical environmental problems with participation of other agencies.

- (9) Review of designs by other agencies.
- (10) Anticipated public use around the structure.
- (11) Location of closest residences that might be affected by increases in noise, lighting, and other visual impacts.
- (12) Potential Indian trust assets.
- (13) Potential environmental justice issues.
- (14) Any threatened and/or endangered critical habitat in/or adjacent to the project.

J. **Site Security.** Many Reclamation projects may require a security risk assessment. The need for a site-specific security risk assessment should be considered for feasibility designs where an assessment may impact the field cost estimate and for specifications designs. Specific issues to consider are contained in Section 14 of Chapter 7 – Site Security and Public and Worker Safety. If assistance is required to determine specific design data needs, contact the Office of Security, Safety and Law Enforcement. Where design data and designs include site-specific security assessment, compliance with Reclamation Manual DM Part 444 – Physical Protection and Facility Security, Chapters 1 and 2 is required.