

CHAPTER 3

ROADSIDE FACILITIES

3-1. Application. Many roads which provide access to day and overnight recreation use areas traverse terrain with high scenic value. These scenic views can be near the road or at great distances therefrom. Scenic views should be made available to the project visitor by providing a full stop overlook and by creating vistas which could be full stop or drive-by in nature. The turnout for sanitary dump station is another type of roadside facility provided for recreationists. The entrance station is covered in Chapter 8, this manual. Planning reports set out the need for a roadside facility. That report should also determine how large, how many visitors will be accommodated, and the general location of such facilities.

3-2. Controls. Safety of all highway users is the main controlling factor in designing roadside facilities. Recreationists that use the roadside facility should be able to maneuver their vehicles off the main roadway into the roadside facility without increased danger and the safety of other users. Generally, vehicles should not have to cross traffic or stop on the roadway before turning into the roadside facility and from the roadside facility back onto the main road. For example, a trailer dump station should be sited along the out-bound lane.

3-3. Design Considerations. These data for the design of roadside overlooks and vistas should be used to enhance the recreationists visit. Each site is different and application of the data should be supplemented with the experience of the park designer. The advice of the experienced park manager, road designer and landscape architect should be sought when collecting information and data required for the design of roadside facilities. Another roadside facility to be considered here is the sanitary station for self contained trailers and Recreation Vehicles that need to dump stored wastes. Sanitation and safety of the user are to be emphasized for this type of facility design.

a. Overlooks. To meet safety requirements the access road should be field staked so that a complete analysis of the site can be made of the existing conditions. Sites which are densely wooded or those dominated by extreme rock outcropping should not be intensely developed by heavy grading.

(1) Location. Overlooks and their support facilities should be sited on gently sloping terrain. The area where the entrance, exit and parking facilities will be located should not exceed 7 percent grades and

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the section of roadway passing the potential site should not exceed 5 percent grade. These selected grades are guides to the designer to avoid dispoilment of the site that is providing the opportunity to view the scenic beauty beyond the access point. Grades of the road providing access to the general area might be as great as 15 percent, but the road grade at the site and the terrain on which the overlook is developed should be close to the 5 percent grade. The total scenic values of the overlook site should be preserved at all cost even to the extent of abandoning the overlook development and looking elsewhere for a more suitable site.

(2) Site development. The overlook facilities should be set in the existing vegetation and geological assets of the site. The parking area should not occupy the dominant elevation of the site. The dominant elevation should be reserved for development of the viewing area from a standing or sitting position. Precipitous dropoffs should be made safe by the provision of appropriate railing. The railing should protect the very young and the very old but at the same time provide a height which protects the wheelchair visitor and permits normal and comfortable access to the views afforded other visitors. Appropriate shelter should be provided for protection from hot sun and rain, to house interpretive media, and to afford picnicking capabilities if needed.

(3) Clearing and grading. These two operations should be controlled at the design stage by very carefully locating the overlook facilities on those parts of the site where the smallest amount of existing vegetation, particularly trees and shrubs, would be destroyed. Parking areas should be designed around existing trees to the extent feasible. A landscape architect should be involved in the design of the clearing and grading of the overlook site. Grading should be accomplished to meet natural grades of the site and only that amount of natural soil or rock be removed to allow for sound construction procedures. Foundation preparation should be limited to that required for development of each facility. Clearing and trimming of vegetation to open visual channels should be designed in accordance with paragraph 3-3b(2)(a), vista clearing.

(4) Facilities. It should not be misconstrued that every overlook will contain all of the facilities included in this chapter. Some overlooks could contain more. The designer, confronted with a specific site, is the only person who can determine the total development which can be accommodated by the conditions of the site and still meet the needs for the visitor as set out by the planner.

(a) Access road. Ingress and egress should be provided under the design data given in Chapter 2 of this manual for road intersections. The design of the road should follow the data set out in Chapter 2 for circulation roads.

(b) Parking areas. Attractive gates should be provided to restrict vehicle access and visitor use to designated use periods. Short circulation roads from the main roadway are acceptable. The design of the road to the overlook should protect the environment. Elements of parking area design are given in Chapter 7 of this manual. Parking areas for automobiles should be developed with 90 degree head-in spaces. This is the safest parking maneuver where come and go traffic is a high percent of the total traffic. If pull-through parking can be developed with no appreciable expense to the environment (requires additional space) then it too should be considered. Parking for busses and cars with trailers should be provided if possible.

(c) Walks. This feature of the overlook should be designed in accordance with Chapter 5 of this manual. The designer should make certain that provisions for the handicapped visitors are considered in the early design stage.

(d) Interpretive media. Several techniques can be used to interpret particular portions of a scene viewed from an overlook. These are: audio, visual, and a combination thereof. The designer should seek the advice and help of experienced technicians in the specialized field of providing outdoor graphics.

(e) Signs. Traffic regulating signs guide potential visitors to roadside facilities and in and out of parking areas. Additional signs, as needed, to meet visitor needs should be developed according to the site demands. Facilities for the handicapped including parking areas should have proper signs. Special scenic overlooks, unique ecological and aesthetic features should be given appropriate attention by signs and outdoor graphic descriptions.

(f) Landscaping. Land forms and scenic values should be complemented and protected at roadside facilities. The introduction of exotic plant species should usually be avoided. Native species, including grass species are preferred. Planting plans should usually have a naturalistic character.

b. Vistas. The main considerations in the design of vistas are the location, the extent and nature of clearing, and roadside safety. Vistas may be designed for moving vehicles or stopped vehicles. Clearing will be different for each. Vistas are popular points for taking interesting

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photographs. For this reason light requirements, foreground, and framing potential should be considered.

(1) Location. Vistas should be developed along roads having a gradient, horizontal and vertical alinement, vehicle speed, deceleration time, stopping distance and sight distance which are amenable to park visitors enjoyment of a vista development. Vistas should not be located on sharp curves, at the end of a tangent leading into the curve, nor at right angles to tangents where the motorist has to turn his eyes beyond the desirable maximum of 45 degrees from the road centerline. Generally, vistas should be located on the right hand viewing side of traffic where the assumption is made that the view would be most important to inbound traffic inside the park area.

(2) Site development. The vista can be designed to afford a view of the scenery beyond by clearing only the underbrush and low hanging branches or fully clearing of all obstructions which would rinder a full view of the scene beyond. Each of these developments and the various degrees of development between requires different standards. The park manager, landscape architect and planner can contribute to the extent and nature of the development for specific sites.

(a) Vista clearing - for moving vehicle. The determination of the extent of clearing for a vista providing a view from a moving vehicle requires a time space study. Time is as important as cleared space; they both should be related to the driver's viewing point. A vista clearing should create a flash impression to the car occupants. Clearings need to be large enough to allow adequate viewing time, but small enough to hold attention for a short period of time. Clearing length will change with vehicle speed. Usually three to five seconds allowable attention and viewing time requires 150 to 200 feet of clearing length at 30 mph. Slope of ground surface away from the roadway and depth of the vegetation from the roadway to sloping terrain also plays a role in determining the extent and nature of clearing and the location of the vista. Corridors of deep vegetation, greater than twenty feet, will require an angular finished cut edge as compared to vegetation depth consisting of only a few minor trees and dense understory.

(b) Vista clearing for stopped vehicle. Time is no factor to the viewing qualities of a park visitor in a stopped vehicle. Available space to provide pull-off parking at vantage points, including the need of the angular cut of the finished tree and shrub line, are factors which have to be dealt with in site development design of this type of vista. Also, for this type of vista, consideration should be given to a design of understory clearing and lower limb removal. However, this type of vista requires safe parking of the vehicle off the main roadway.

Understory vegetation should be removed which will limit vegetative growth to two feet. Low hanging limbs that interfere with the view should be totally removed or that portion of a limb that causes interference to the viewer. Such trimming should provide a maximum overhead clearance of seven feet. Partial limb removal (leaving a limb stub) should not be practiced. The total length of clearing parallel to the road and/or parking area should be controlled by the depth of the tree cover which causes the visual barrier and the extent of the scene to be viewed. Clearing for visual access to the scene beyond the obstruction should not exceed fifty feet along the edge of the pull-off. Tapering of the tree and shrub line edge should be used to increase the exposure of the scene to the viewer. Vista clearing for stopped vehicles is shown on Figure 3-1.

(c) **Vehicle pull-off.** The entrance for a vista pull-off should begin fifty feet ahead of the starting point of the vista clearing line and the exit should end fifty feet beyond the opposite vista clearing line. A short deceleration lane should be provided so that the vehicle can leave the roadway in a safe manner and come to a stop in the parking position opposite the vista clearing. The pull-off should be a minimum of 16 feet wide through the parking area and the access and exit lanes should be a minimum of 10 feet wide. The entire vista area should be separated by a traffic island a minimum of two and one half feet wide. Figure 3-2 is a sketch of a typical vistas pull-off.

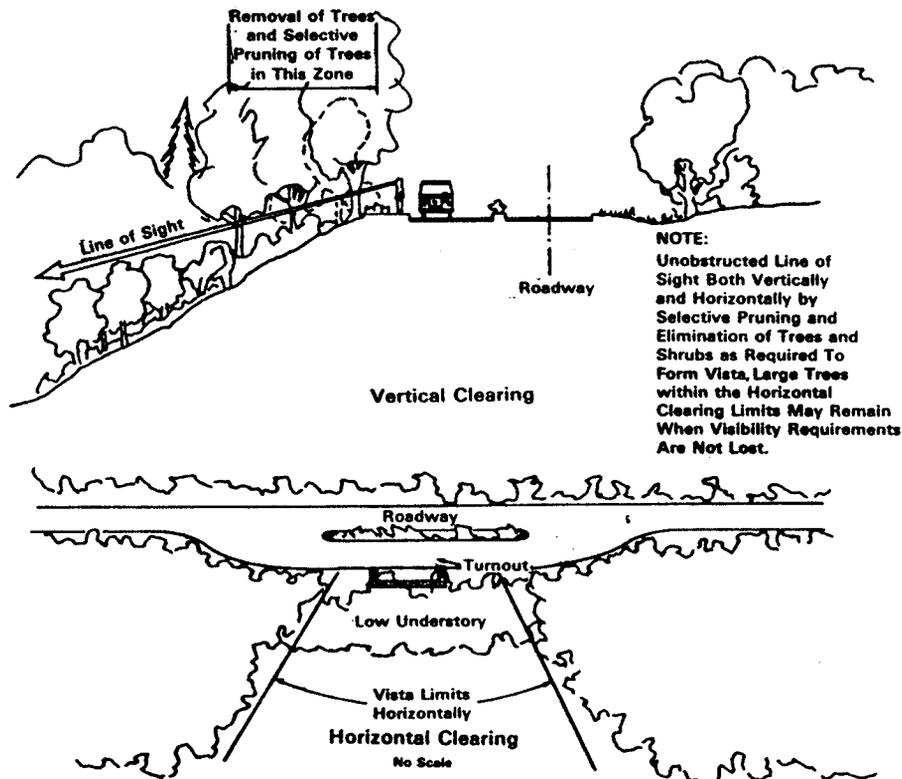


Figure 3-1 Vista Clearing

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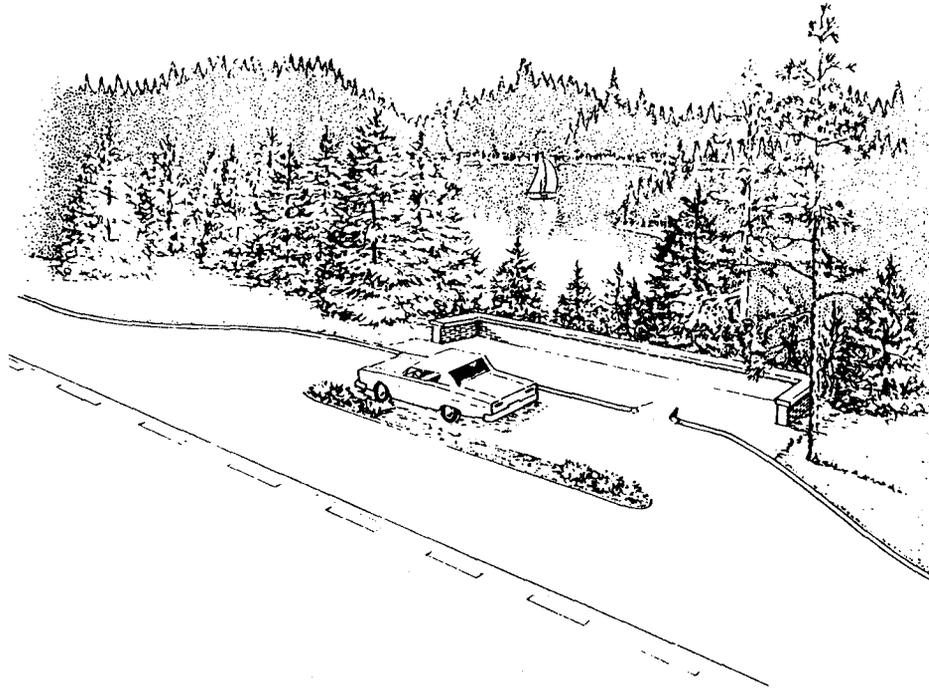


Figure 3-2 Parking for Vistas

(d) User amenities. Vistas usually need no additional facilities except a solid waste receptacle. It should be anchored to a post or other permanent structure.

(e) Landscaping. The vista should be enhanced where needed with a selective planting. Plants should be native species that require minimum establishment and maintenance. No attempt should be made to maintain grasses in lawn form. The area should be kept open to provide safety to users from the standpoint of poisonous snakes that might inhabit the area.

(f) Signs. Standard highway markers for scenic overlooks should be used to direct the potential user to the vista site. Additional signs might be needed to give the visitor indepth knowledge of the views.

c. Turnout for Sanitary Dump Station. The sanitary dump station is required for disposal of the wastes from boats and/or mobile camping facilities. The station is usually not manned when located in relation to camping and non-marina related boating areas. Back up of users can occur at peak times and this occurrence should be part of the overall design.

(1) Location. A site that is somewhat remote to other park users and with some screening (natural when possible) from view of passerbys should be the prime criteria. The facility should be located along the outbound lane of the access road serving the camping and boating areas. Otherwise a secluded site either within the immediate vicinity of the

camping area or the boating area should be made part of the design criteria.

(2) Access drives. A typical site design for a dump station is shown in Figure 3-3. The radii, road widths and unit parking position at the station are considered minimum and provides the flexibility for the vehicle to return to the activity area or to turn onto the outbound land of the road. Adjustments should be made in length of entrance driveway and of radii to fit terrain and existing vegetation conditions. A queuing lane along the road before reaching the turnout might be needed for some areas.

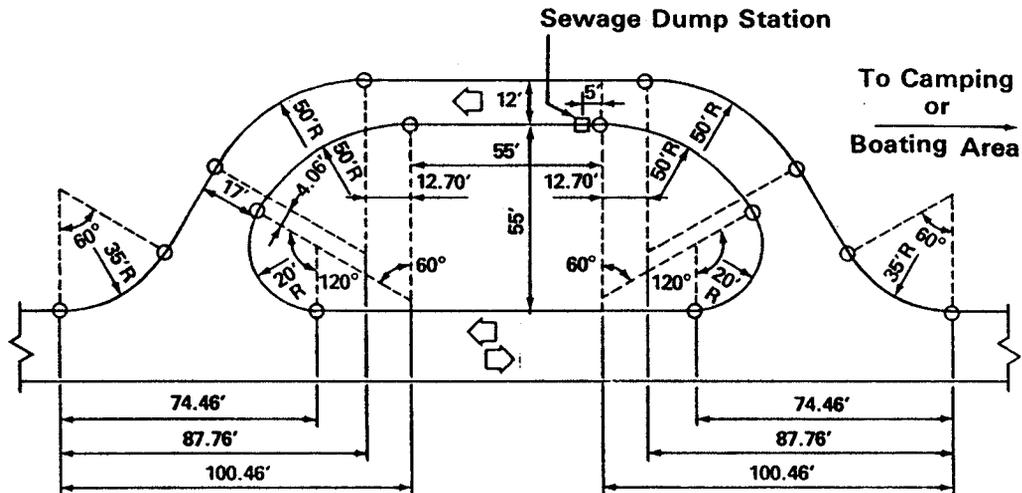


Figure 3-3 Minimum Dump Station Access Drive

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(3) Water supply and waste handling.

(a) Water supply. A small quantity of water (coin operated 10 minute metered supply) should be available to the user for washing down the holding tank, pipe connection, and the concrete drain area of the station. A water supply of 5 to 10 gallons per minute usually will be sufficient for the station. The water should be potable giving a safety factor over the possibility that children passing the area might be tempted to drink from the water supply. The metered operation also provides some margin of water conservation. The water supply and waste drain might be connected to the park water supply system and sanitary system. This could be a determining factor for station location due to economics in cost of piping.

(b) Wastewater. The dump station can be connected to a sanitary sewer, be connected to a large holding tank which would be pumped and the waste truck-hauled to a treatment facility at some other part of the project or off-project site. The waste could also be treated on site by a septic tank system or lagoon system. Generally on-site package plants should not be used for dump station wastes.

(4) Signs. A traffic regulating sign should be posted along the road to warn of the type of traffic ahead and a sign that directs users to the station.

(5) Landscaping. Planting should be minimal and mainly to provide the screening of the facility. Grassed areas should be used for landscape restoration and erosion control.