Chapter 16—Learning From Others

Case studies provide insight and better understanding when planning and designing trails and recreation sites. The trail system master plans for communities in Florida and Arizona and the recreation sites in Oregon, Montana, Arizona, and Illinois incorporate equestrian design concepts appropriate to the sites' climate, soils, topography, and vegetation. These projects take the needs of users and land managers into consideration as well as budget limitations. Some projects are completed and others were in progress when this guidebook was published.

Trail System Master Plans

A comprehensive trail system can improve quality of life, particularly when trails provide more than recreation opportunities. Some areas adopt healthy community initiatives that support nonmotorized access to local schools, shopping districts, and workplaces. Public trail systems can be far from roads or they can supplement the roadway system. Trail systems can be designed with low, moderate, or high levels of development, connecting trails in wildland, rural, urban, or a combination of settings.

It is expensive to create corridors for walkways, bikeways, and trails after transportation, recreation, residential, or commercial infrastructure has been established. Master plans reduce redundancy, streamline funding, and give communities a way to communicate their needs. Master plans can provide the framework for a cohesive, linked trail network that serves the greatest number of people in the broadest geographic areas of a community. Although it takes time and lots of cooperation to develop trail master plans, the effort can produce many benefits. The master plans in this section are from areas with a high level of development.

Equestrian Trail Network Study—Pinellas Park, FL

Within the city of Pinellas Park, FL, large land tracts are owned by active equestrians. When the *Equestrian Trail Network Study* began, there were roughly 750 horses and 45 property owners with public and private stables scattered over about 200 acres (80.9 hectares). Horse trails meandered through the area, taking advantage of local parks and roads. There were about 9.6 miles (15.4 kilometers) of horse trails within city parks and rights-of-way. Many of these trails were not contiguous because of barriers, roadway crossings, large drainage channels, and private property boundaries.

Growth and development within the surrounding neighborhoods brought schools, parks, and other public facilities. As development encroached on areas enjoyed by riders, increasing traffic spurred the equestrian community to request an improved, safe, and dedicated trail network. As a result, the Pinellas Park planning department established a nine-member Equestrian Trails Study Commission. In 2000, the commission recommended establishing an equestrian trail network for Pinellas Park.

The Orth-Rodgers and Associates consulting firm, in cooperation with the Pinellas Park Planning Department and the Pinellas Park Equestrian Trail Study Commission, produced the *Equestrian Trail Network Study* (2002). They collected data based on field reconnaissance, aerial photography, existing rights-of-way and land-use maps, local history, trail user needs, and input from the general public and professionals. They reviewed the history of the equestrian community in the area, conducted an inventory of existing conditions, and identified existing recreation facilities. Common themes included:

- ☆ Physical activity and exercise opportunities
- ☆ General design considerations and network connections
- ☆ Conservation and management provisions
- ☆ Improved access to special features and locations
- ☆ Improved safety and access at roadway crossings

After completing these activities, the consultants developed planning guidelines and proposed design objectives. They addressed:

- ☆ Design criteria—Rights-of-way limits, adjacent property ownerships, clear zones, sight distances, trail crossings with at-grade road intersections, controlled trail access, typical trail sections, and information kiosks
- ☆ Trail foundation and tread—Drainage, trailbed, tread, vegetation, and obstructions
- ☆ Trail safety—Signs and trail markings, pavement markings, horse-friendly lighting, and general equestrian safety
- ☆ Trail maintenance and management criteria
- ☆ Trail etiquette

Subsequent phases of this project will include design and construction of trail network improvements. The *Equestrian Trail Network Study* is not available online.

Trails Master Plan—Scottsdale, AZ

Before approval of a trail master plan in 2003, Scottsdale, AZ, had not addressed trail planning since 1991. During that period, the city experienced significant growth that affected about 300 miles (483 kilometers) of unpaved, shared-use trails. Many trails that once were nonmotorized transportation routes became fragmented.

During the planning process Scottsdale used many of the concepts found in *Chapter 2—Planning Master Trail Systems*. The resulting trail master plan classified existing and proposed trails and links using seven different categories:

- ☆ Primary or signature trails—Trails that have regional significance by providing linkages to major destinations
- ☆ Secondary trails—Trails that provide links between primary trails and more localized neighborhood trails
- ☆ Local trails—Trails that are usually feeder trails
- ☆ Neighborhood trails—Trails that are very limited in range, serving a localized area
- ☆ Trailheads—Entry points to the trail system
- ☆ Trail crossings—Crossings designed to minimize safety risks
- ☆ Paved links—Paved sections where new, unpaved trails are not possible

The plan considered the environment when classifying primary, secondary, local, and neighborhood trails:

- ☆ Built environment trails—Trails that occur in more constructed environments and have a decomposed granite trail surface
- ☆ Natural environment trails—Trails that occur in more natural or undisturbed open space and have native surface materials

Standards were assigned to each trail class to describe the minimum acceptable tread width, surface type, signs, and whether additional amenities would be provided.

Resource Roundup

City of Scottsdale Trails System Master Plan

The *City of Scottsdale Trails System Master Plan* (Todd and Associates and others 2003) examines existing trail infrastructure from physical characteristics to policies and procedures. A detailed executive summary and plan documents are available at *http://www.scottsdaleaz.gov/trails/plan.asp.*

West Valley Multimodal Transportation Corridor Master Plan—Phoenix, AZ

The Maricopa Association of Governments and the Flood Control District of Maricopa County jointly developed a multiphase, multipurpose flood control facility that also provides opportunities for recreation trails and alternative transportation trails.

The West Valley is northwest of Phoenix, AZ, along the New and Agua Fria Rivers. It encompasses a riparian ecosystem common to the Sonoran Desert region, along with diverse plant and animal habitats as well as cultural resources. The transportation corridor links many communities in the greater Phoenix area.

The general topography of the West Valley includes low undulating hillsides, mountains, open space, major washes, and innumerable deep arroyos. The northern reach is rugged and remains largely undeveloped. The flat topography in the central and southern reaches favors urban development.

The *West Valley Multimodal Transportation Corridor Master Plan* is the regional framework for a 42-mile (67.6-meter) trail network that connects existing trails and major public land areas, serving pedestrians, riders, bicyclists, and other trail users. The nonmotorized trails take advantage of locations that offer multiple benefits—alternative transportation routes, recreation opportunities, wildlife habitat preservation, open space protection, and flood control.

The master plan acknowledged the natural character along the rivers and considered ways to minimize environmental degradation. To facilitate planning, the corridor was divided into three landscape management zones—conservation, passive, and active. Planners considered the amount of use appropriate for each zone, restricted access to sensitive areas, and identified potential conflicts, safety issues, and challenges to trail design. Five types of trails were identified:

- ☆ Primary
- ☆ Secondary
- ☆ Neighborhood-transit-connector
- ☆ Conservation-interpretive
- ☆ Equestrian

To accommodate the needs of anticipated trail users, trails vary in location, design, and amenities. The plan attempts to create a sense of place, maximize safety, and establish a regional multimodal transportation system that links residential areas, bus routes, parks, commercial buildings, schools, and other facilities.

Resource Roundup

West Valley Multimodal Transportation Corridor Master Plan

The *West Valley Multimodal Transportation Corridor Master Plan* (Entranco and others 2002) is a multifaceted master plan covering two river corridors. A detailed summary is available at *http://www.mag.maricopa.gov/archive/wvtrails/publications/master%20plan.pdf.*

Trailheads and Campgrounds

Whether a recreation site is in the country or in the city, the goal of equestrians is the same—to have a safe and enjoyable visit. The following case studies describe popular equestrian recreation sites in a variety of settings. The examples are arranged in order of complexity, beginning with the lowest level of development. Levels of recreation site development may be different than levels of trail development.

Equestrian Trailheads and Campgrounds With Low to Moderate Development

Recreation opportunities in areas with low and moderate levels of development strongly appeal to riders. These trailhead and camping opportunities, usually found in rural or wildland settings, bring a level of enjoyment that is difficult to duplicate in highly developed or urban areas.

Horse Creek Campground—Siuslaw National Forest, Florence, OR

The Horse Creek Campground, in the Mapleton Ranger District of the Siuslaw National Forest, is shaded by tall pines that also provide shelter from the wind. The campground has two access points to the adjacent trail system, which offers scenic views of the Pacific Ocean and nearby mountains (figure 16–1). The trail system has looped trails and road segments that offer many options for day trips.

When designing the Horse Creek Campground, Siuslaw National Forest personnel worked closely with volunteers from Oregon Equestrian Trails, a nonprofit service organization. The campground has 11 camp units furnished with tables and fire rings (figure 16–2). The visitor information station is near a vault toilet (figure 16–3) built by Job Corps members. Water for stock is available on nearby trails (figure 16–4). Each rustic camp unit has access to a post-and-rail corral in one of two sizes. The larger corrals are 15 feet (4.6 meters) by 30 feet (9.1 meters) and have wood divider rails down the middle. The smaller corrals (figure 16–5) are 15 feet (4.6 meters) by 20 feet (6.1 meters) and have ropes or chains for gates.

Drivers enter the campground on a single-lane gravel road with a cul-de-sac at the end. Some camp units with graveled pullthrough and back-in parking pads

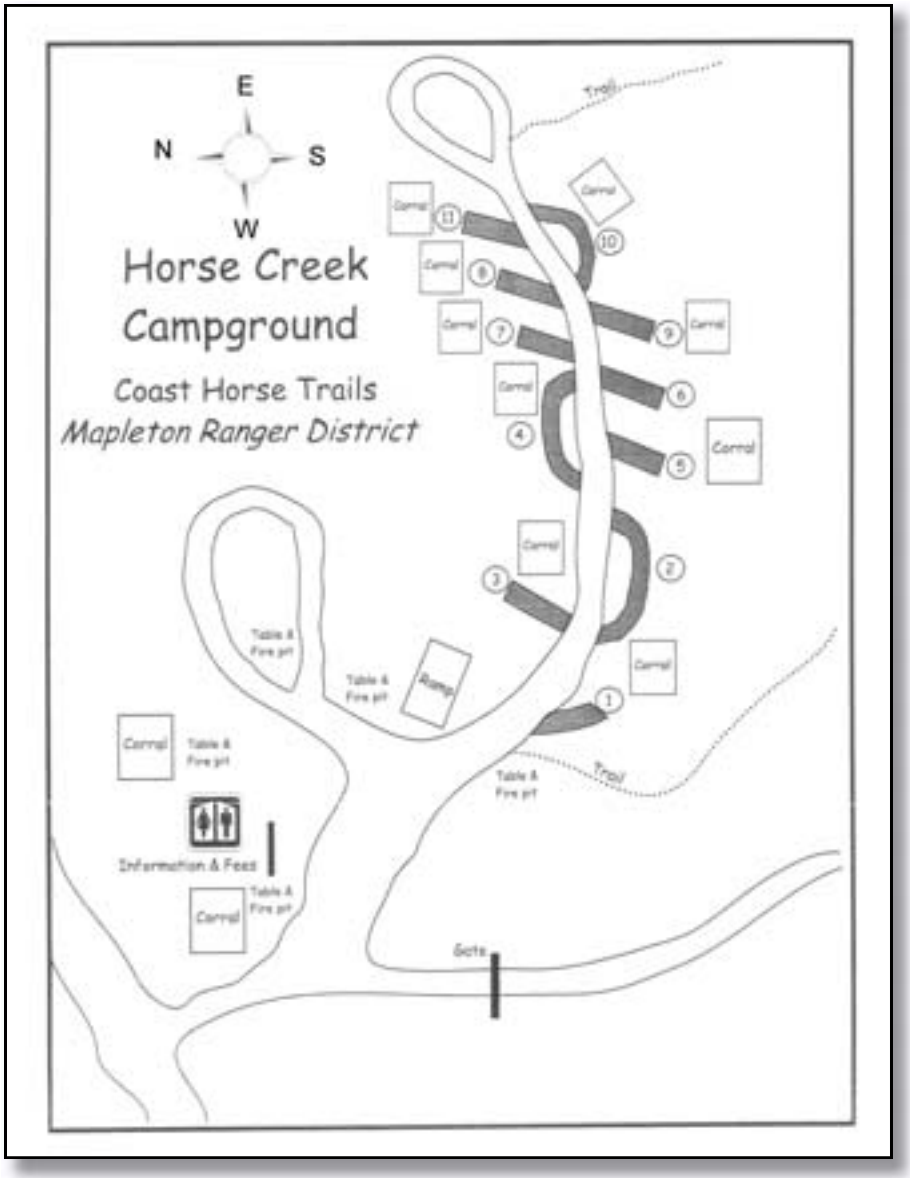


Figure 16–1—Horse Creek Campground in the Siuslaw National Forest.

accommodate vehicles with trailers. A combination mounting and loading ramp (figure 16–6) serves stock trucks and people in wheelchairs. Figure 16–7 shows the removable rails that allow access for riders with disabilities.

Figure 16–2—The Horse Creek Campground has 11 camp units.

Figure 16–3—Members of the Job Corps built the sturdy vault toilet.

Figure 16–4—Stock water is available a short distance down the trail.

Figure 16–5—Some of the campsites have corrals. This one measures 15 by 20 feet.

Figure 16–6—A combination mounting and loading ramp is provided for people who use mobility devices and for trail stock.

Figure 16–7—A removable rail provides access for people with disabilities.

Resource Roundup

Horse Creek Campground

For more information, visit *http://www.fs.fed.us/r6/siuslaw/recreation/tripplanning/newpflor/camp/horsecreek.shtml.*

Picketpost Trailhead—Tonto National Forest, Superior, AZ

Picketpost Trailhead, near Superior, AZ, takes its name from the feature it accesses—Picketpost Mountain (figure 16–8). This simple recreation site in the Sonoran Desert is an excellent example of a shared-use trailhead built by volunteers. The site (figure 16–9) has parking for equestrians and other visitors, a toilet building, and a wayside exhibit. Figure 16–10 shows the toilet building, and figure 16–11 shows the equestrian parking area. To successfully complete the project, Tonto National Forest personnel coordinated numerous volunteer events. A grant funded the toilet building, directional signs, a hitch rail, and a bike rack. Tonto National Forest employees and volunteers installed these amenities.

The new parking area took advantage of an abandoned loop road, minimizing removal of vegetation. The Arizona Department of Transportation provided remilled asphalt to surface the interior recreation site road and supplied construction equipment and labor to spread the materials. The finished design includes 30 parking spaces for nonequestrian passenger vehicles clustered between shade trees. Two pullthrough parking spaces serve motorhomes and trailers. An area without vegetation accommodates nine pullthrough parking spaces for equestrians. It is separated from the nonequestrian parking area by about 100 feet (30.5 meters) and a buffer of native desert vegetation. The parking areas are surfaced with compacted decomposed granite, which contrasts with the remilled asphalt on the road, helping to define parking areas. The addition of wheel stops at the front of nonequestrian parking spaces helps distinguish visitor parking. Raised lane markers—also called *highway bumpers*—designate angled equestrian parking spaces.

Figure 16–8—Recreationists access the Arizona Trail, an 800-mile (1,287-kilometer) nonmotorized trail, from the Picketpost Trailhead in the Sonoran Desert.

Volunteers from the neighboring Boyce Thompson Arboretum removed all vegetation that would be disturbed during trailhead construction. They placed the plants in pots and transported them to the arboretum for care. At the completion of the project, arboretum representatives and Boy Scouts replanted the salvaged plants during a workday at the new trailhead site. Volunteers also installed the hitch rail and bicycle rack. As a final touch, they constructed a wayside memorial exhibit. Hikers, family members, and Forest Service employees spent a day building a stone bench, installing an interpretive sign, and planting a shade tree. The recreation site is very popular with riders and other nonmotorized trail users.

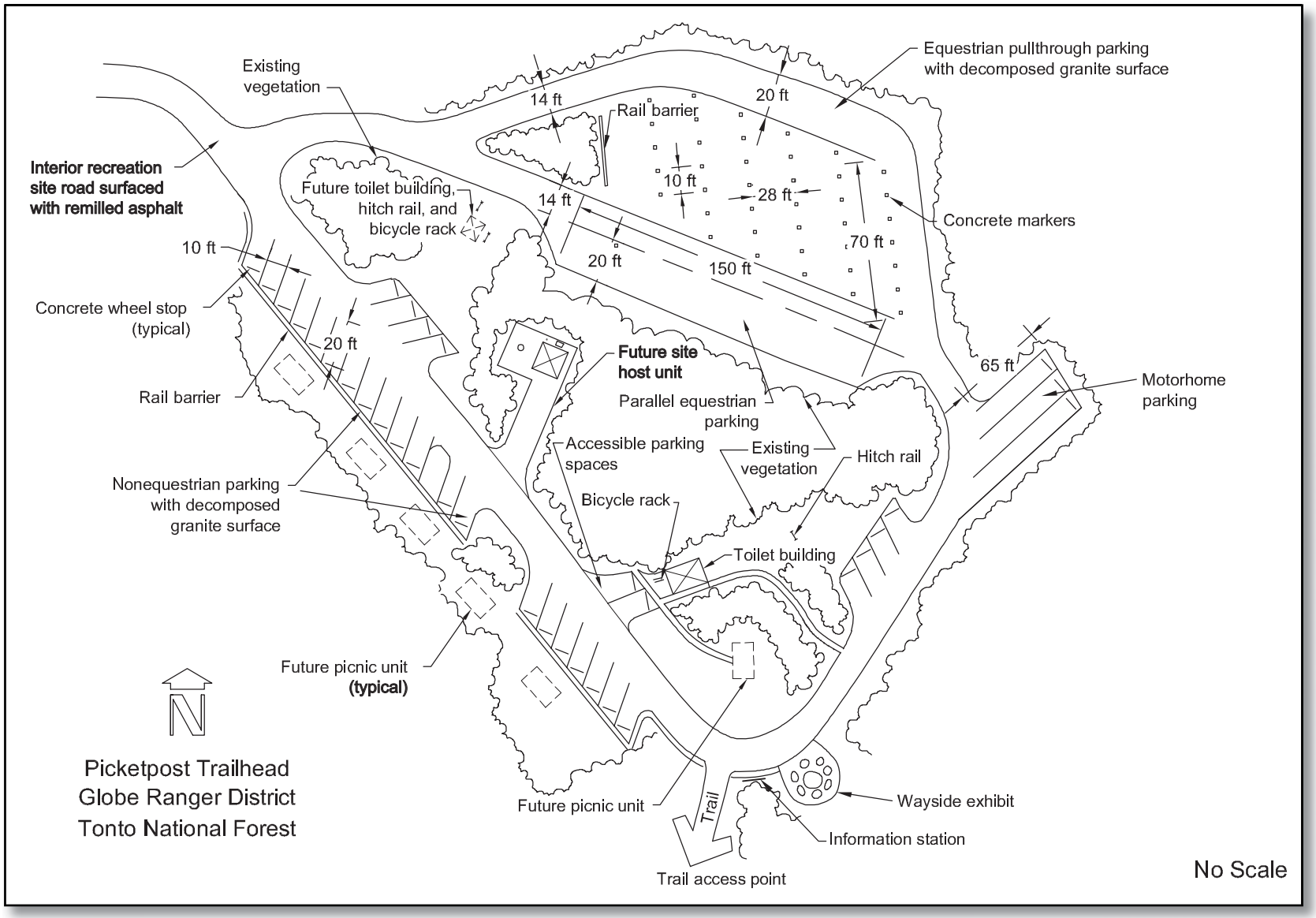


Figure 16–9—Picketpost Trailhead in the Tonto National Forest. Future plans include construction of a site host unit, picnic units, and another toilet building.

Figure 16–10—The toilet building at the Picketpost Trailhead has two accessible parking spaces.

Figure 16–11—The campground at the Picketpost Trailhead has nine pullthrough equestrian parking spaces.

Blue Mountain Horse Trailhead—Lolo National Forest, Missoula, MT

The Blue Mountain Recreation Area is one of three Lolo National Forest recreation areas in the rural-urban interface near Missoula, MT. At Blue Mountain, about 2 miles (3.2 kilometers) southwest of Missoula, riders, hikers, runners, mountain bikers, dog walkers, *folfers* (Frisbee golfers), motorcyclists and OHV riders share all or part of the recreation area. This variety, combined with great scenery and the proximity to town, makes the Blue Mountain Horse (or Main) Trailhead very popular, especially in the evenings and on weekends.

The population of Missoula County—about 101,000 in 2005—is rapidly growing. The trailhead parking area (figure 16–12) accommodates 25 to 30 vehicles, including 5 or 6 horse trailers. Facilities include a toilet building, a horse unloading ramp, and a visitor information station (figures 16–13 and 16–14). The parking area is fenced to prevent offroad, motorized vehicles from leaving the trailhead. The parking area, which has little delineation, is full on busy days.

The Forest Service had planned to expand and improve the trailhead for several years. Early in 2004, the Backcountry Horsemen of Missoula offered to help with the work and to submit a National Recreation Trails grant request. Managers viewed the expansion as an opportunity to accommodate

Figure 16–12—The parking lot at the Blue Mountain Horse (or Main) Trailhead does not have delineated parking spaces.

Figure 16–13—Facilities at the Blue Mountain Horse Trailhead include a single-user toilet building and a loading ramp for stock and dogs.

Figure 16–14—The visitor information station provides maps, signs, and information brochures.

increased use, reduce parking congestion, and provide spatial separation between parking for horse trailers and stock trucks and parking for pedestrians and mountain bikers. This project may be completed in stages over several years as funding, partnerships, and volunteer opportunities allow. The acting district ranger issued a memo of decision in May 2004, which is summarized below. Figure 16–15 shows the proposed trailhead expansion plan.

Issue 1: Capacity—How large should the parking area be?
Decision:

- ☆ Expand the parking lot to provide 10 to 14 horse trailer parking spaces. Design the horse trailer parking area with pullthrough spaces. Maximize the distance between spaces and install hitch rails.
- ☆ Restrict pavement at the horse parking area. The pedestrian and mountain biker parking area may be paved in the future.
- ☆ Improve the pedestrian and mountain biker parking area for better parking delineation, use patterns, and traffic flow.
- ☆ Restrict the equestrian parking area to vehicles towing and hauling stock. Vehicles towing horse trailers will be prohibited from parking in the pedestrian and mountain biker parking area.

Rationale for this decision: Blue Mountain is the most popular national forest horseback riding area in the Missoula Valley. Having 10 to 14 horse trailer parking spaces would accommodate current use and allow additional use. Expanding beyond 14 spaces may cause the horse parking area to dominate the landscape. Expansion predominantly to the south minimizes the visual effect and maintains the scenic view of Blue Mountain from the county road and trailhead entrance.

Expanding the trailhead will reduce congestion and conflicts between different types of users while improving public safety. Stock and dogs unaccustomed to each other may be a safety concern, so separating equestrian and nonequestrian parking areas reduces the chance of injury to dogs, horses, riders, and others.

Issue 2: Horse Unloading Ramp—Should the Forest Service continue to maintain an unloading ramp?
Decision:

- ☆ Provide two separate or one shared ramp for stock and dog unloading, depending on how the final trailhead functions.
- ☆ Separate or sign the dog and stock ramps.

Rationale for this decision: When developing the initial proposal, it was assumed that the stock ramp received little or no use, since most people use horse trailers. Additional space could be made available by removing the ramp. However, public comments indicated many people use the ramp for unloading stock or dogs and some people use it to mount their animals, so one or two ramps are planned. The dog ramp may be modified to prevent stock unloading at the pedestrian and mountain biker parking area. Dog unloading will be prohibited in the equestrian parking area. There is a possibility of developing a shared ramp between the equestrian and nonequestrian parking areas. If that isn't feasible, there may be one ramp in the equestrian area and a second ramp in the pedestrian and mountain biker parking area.

Issue 3: Weeds—Can the Forest Service design the trailhead to reduce the spread of invasive plants?
Decision:

- ☆ Revegetate soil disturbed during expansion.
- ☆ Continue the present mowing, herbicide, weed prevention, and education activities.

Rationale for this decision: There were no public comments, so the present program is maintained.

Issue 4: Design and visual quality—Could the trailhead be designed to be more esthetically pleasing? Could shade be provided during the summer?
Decision:

- ☆ Revegetate disturbed soil with weed-resistant grasses.
- ☆ Plant a few native conifers.

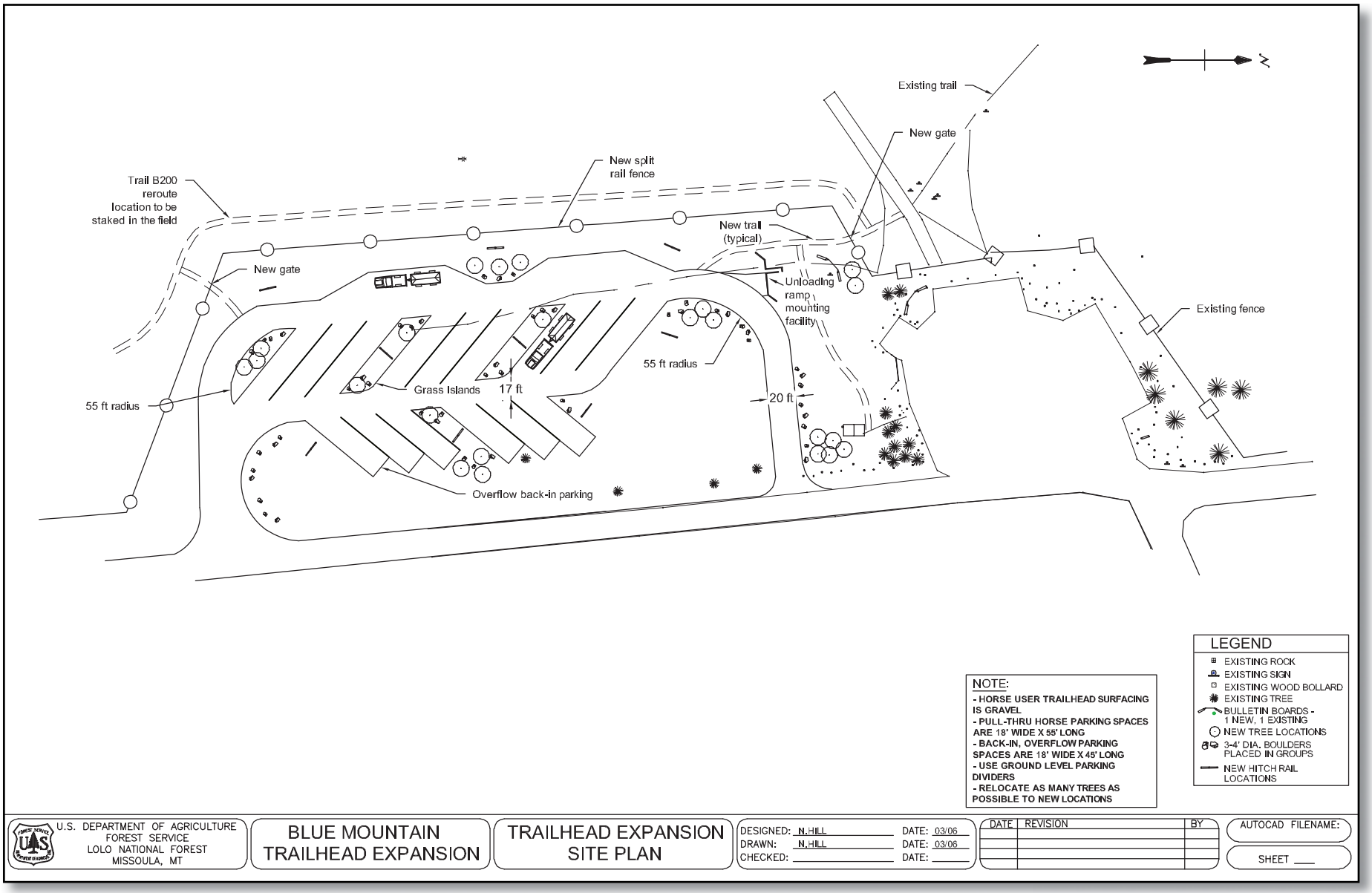


Figure 16–15—The Blue Mountain Trailhead proposed expansion in the Lolo National Forest. Equestrians park in the lot on the left. Pedestrians and mountain bikers park in the lot on the right.

Rationale for this decision: By keeping the site simple, trail access is limited and the site will not become a picnic area. Minimizing landscaping lowers water consumption, reduces costs, and discourages loitering. It also means there is less vegetation to vandalize.

Issue 5: Security—Can the Forest Service do anything to improve personal and vehicle security at the site?

Decision:

- ☆ Keep the site relatively open and visible to motorists on the county road.
- ☆ Continue the cooperative patrol agreement between the national forest and the Missoula County sheriff.

Rationale for this decision: Maintaining an open area reduces the chance for theft and vandalism. The county sheriff, Forest Service law enforcement officers, and Forest Service project staff will patrol the trailhead.

Resource Roundup

Blue Mountain Trailhead

For more information, visit *http://www.fs.fed.us/r1/lolo/recreation-brochures/blue-mtn-rec-area.pdf.*

Houston Mesa Horse Camp—Tonto National Forest, Payson, AZ

The Houston Mesa Horse Camp is in the pine and oak forests of the Tonto National Forest at an elevation of 5,000 feet (1,524 meters). The site is on a major highway near Payson, AZ, a community of 28,000.

The uneven topography at this location posed interesting design challenges. The design team had never designed an equestrian campground, so the first step was learning about the subject. The landscape architect, a horse owner, organized a camping trip for team members and their horses. The group spent the night at Little Elden Horse Camp on the Apache-Sitgreaves National Forest. During the stay, the team met with the site's designer, maintenance personnel, and campground hosts. They gathered information from these sources, including learning how important it is for campground hosts to be knowledgeable riders. Some members of the team also rode the trails and visited with other campers, who suggested their ideas on the proposed equestrian recreation site at Houston Mesa. Campers commonly requested water troughs and a shower building.

The Houston Mesa Horse Camp includes single-party camp units for nonequestrians and equestrians, and group camps for equestrians. The horse camp is fenced to prevent horses from escaping. The nonequestrian campground has 48 trailer and motorhome units and 29 tent sites, all carefully located to avoid numerous drainages. Facilities include: flush toilets, a shower building, water hydrants, and a dump station. The campground also includes a 50-person amphitheater and an interpretive trail, made possible with funding from a State heritage grant.

The designers selected the area farthest from the highway for the horse camp to avoid noise and conflicts with motorized traffic. The highway splits the two areas, separating riders and other visitors. Once a preliminary design was completed, it was presented to members of the Arizona State Horseman's Association, an equine advocacy organization. Based on feedback, designers modified the equestrian group camp to include a large open parking area (figure 16–16), where equestrian groups could park according to their needs. Figure 16–17 shows the modified site plan.

Figure 16–16—The layout of the group camp parking area at the Houston Mesa Horse Camp reflects existing topography.

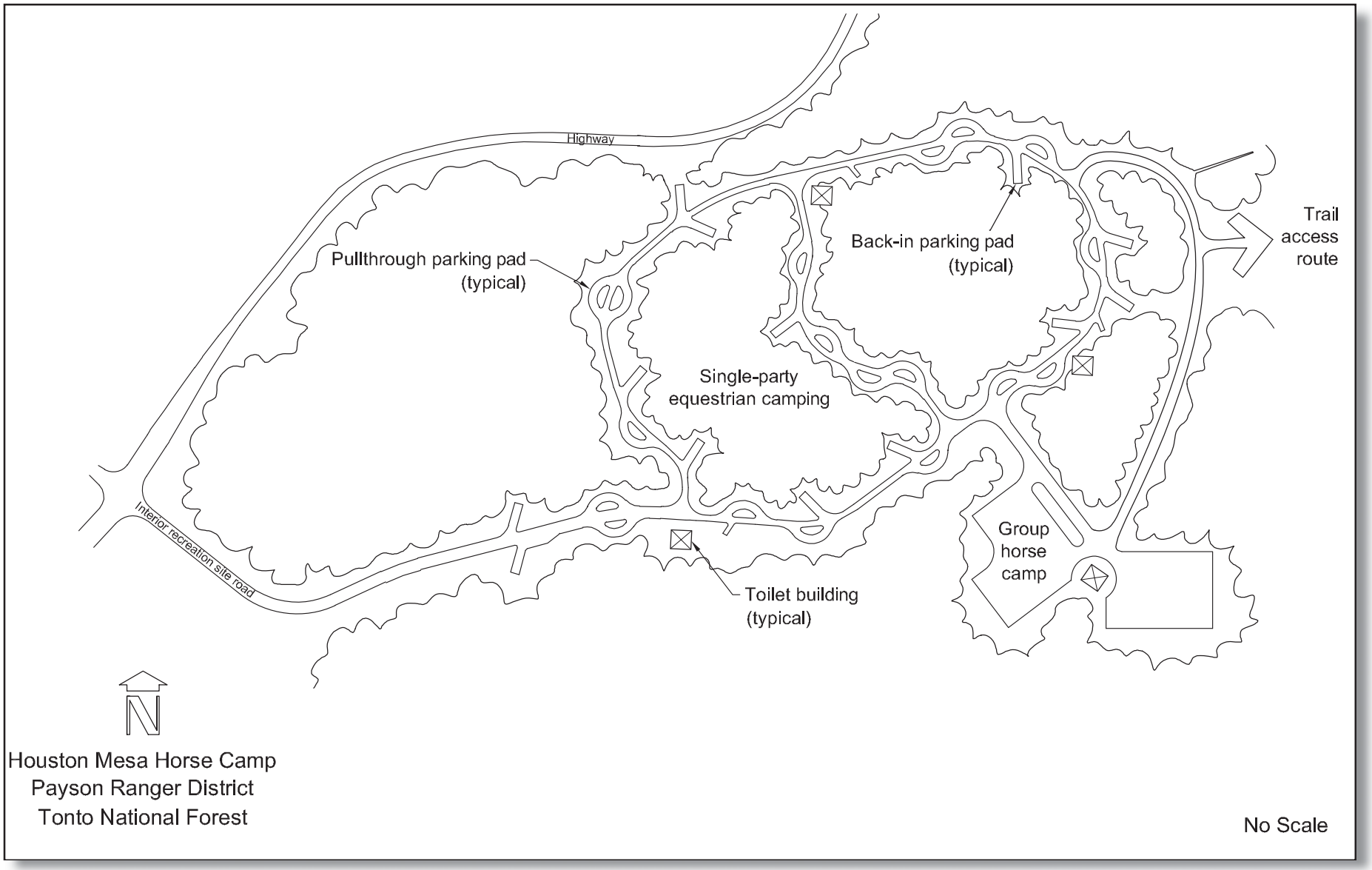


Figure 16–17—Houston Mesa Horse Camp in the Tonto National Forest.

Significant drainages in the area defined the unusual shapes of the group camp parking areas. Together, two adjacent equestrian group camps accommodate up to 65 people. An accessible equestrian group gathering area includes a shelter, a serving table, a fire ring that is 6 feet (1.8 meters) in diameter, and group-sized pedestal grills (figure 16–18).

Figure 16–18—The accessible group gathering area has a shelter, group-sized pedestal grills, a serving table, and a large fire ring.

It was not feasible to provide pullthrough parking pads at all single-party camp units. Some back-in parking pads were included because they were easier to fit between the existing washes and hills than pullthrough parking pads. The horse camp has 30 single-party equestrian camp units, each furnished with a combination fire ring and grill, a picnic table, and a single corral set (figure 16–19). Because project funds were insufficient to purchase corrals, riders donated materials and installed them. The finished corrals use portable panels attached to posts set in concrete. Equestrian camp units have access to water hydrants, water troughs, and flush toilets. Showers are available in the nonequestrian campground.

Figure 16–19—Furnishings at the single-party equestrian camp units include a single corral set, a picnic table, and a combination fire ring and grill.

The Houston Mesa Horse Camp quickly became the most popular horse camp in Arizona, regularly filling on the weekends. Shortly thereafter, a problem became apparent. The trail system included 6- and 9-mile (9.7- and 14.5-kilometer) loop trails, but the trails were not enough to keep overnight riders occupied for long. More trails or longer trails would have been better. When many riders quit using the facilities, the Forest Service began allowing access to other users. When safety concerns arose, equestrian use dropped even further. If the trail system is expanded and the horse camp reverts to rider-only use, the Houston Mesa Horse Camp may appeal to riders again.

Resource Roundup

Houston Mesa Horse Camp

For more information, visit *http://www.fs.fed.us/r3/tonto/recreation/rogs/camping/Payson/HoustonMesaHorseCamp.pdf.*

Waterfall Glen Forest Preserve—Forest Preserve District of DuPage County, IL

Long before the arrival of European settlers, Native Americans camped on limestone bluffs overlooking the Des Plaines River—a convenient vantage point. Today this scenic area is home to the Forest Preserve District of DuPage County, IL. The district, which is just southwest of Chicago, has 60 preserves covering 25,000 acres (10,117 hectares) that include 140 miles (about 225 kilometers) of trails.

Waterfall Glen Forest Preserve (figure 16–20), which encompasses 2,487 acres (1,006 hectares), is in the southeast corner of the district. The preserve includes diverse topography, geology, and soils, formed by the Wisconsin Glacier. This diversity underlies multiple habitats—prairies, savannas, barrens, marshes, sedge meadows, fens, oak-maple woodlands, as well as planted pine groves. Numerous native plants, fish, amphibians, reptiles, mammals, and resident and migrant birds make their homes there.

The area's modern recreation history began in 1907, when 107 acres were purchased from a local landowner so its topsoil could be used to build Lincoln Park. The Forest Preserve District purchased property from private owners in 1925, trading parcels to create a contiguous piece of land. In 1973, the district received 2,222 acres of Federal surplus land from the National Park Service's Lands to Parks Program. The doughnut-shaped parcel surrounded the Argonne National Laboratory Reserve and came with numerous easements, rights-of-way, access roads, and conditions. To accommodate the restrictions, preserve planners developed a master plan oriented to outdoor recreation rather than large group gatherings—trails and related opportunities are emphasized over picnic and camping activities. While there are no picnic areas, visitors are welcome to enjoy a picnic in the mowed grass. Fires are not allowed except at the trailhead fire ring.

Today, Waterfall Glen Forest Preserve is popular with hikers, cyclists, riders, cross-country skiers, and wildlife watchers. Fishing and orienteering are also popular activities. Amenities include toilet buildings, observation benches, drinking water sources, an outdoor education camp, and several parking areas. A model-aircraft field near the trail is easily visible. Conflicts between stock and planes are rare. The Northgate Road Trailhead is very popular with equestrians and other trail users, and a pattern of courteous use also has evolved there (figure 16–21). Visitors with horse trailers use spaces designated for them and other users park elsewhere in the loop (figure 16–22). The parking area is paved with slip-resistant slurry, improving traction for all. For more information regarding the slurry, refer to *Chapter 6—Choosing Horse-Friendly Surface Materials.* Signs indicate traffic direction and equestrian parking spaces. Where riders must travel in paved areas, a parallel path—similar to a shoulder—is surfaced with limestone screenings. The equestrian trail access point includes a mounting and hitching area.

The preserve's three marked trails are from 0.2 miles (0.3 kilometer) to 9.5 miles (15.3 kilometers) long and meander through scenic areas. The main trail loop follows existing service roads, while other trail routes are limited by topography and soil conditions. The 8-foot-(2.4-meter-) wide main trail is surfaced with crushed limestone, accommodating shared use. Numerous unmarked footpaths dissect the preserve. Many trails are suitable for horseback riders. In winter, when cross-country skiers share the trails, etiquette information signs are installed temporarily. Winter trails are groomed about 9 feet (2.7 meters) wide, with ski tracks on the outside edges. Riders and pedestrians use the center tread. To date, few conflicts have been reported.

The preserve attempted to prohibit riders from traveling offtrail and degrading sensitive areas. A local equestrian group advocated the use of education over formal restrictions. The group began educating other riders, and preserve managers mailed an informative newsletter to previously registered trail users. These efforts, coupled with ranger patrols, effectively accomplished the task.

Inside the preserve's southern boundary is an active Burlington Northern Santa Fe Railway right-of-way. Trains travel the route daily. Where the main trail

Figure 16–20—Waterfall Glen Forest Preserve near Chicago, IL. —*Courtesy of the Forest District of DuPage County, IL.*

Figure 16–21—A slip-resistant finish on the surface of this parking area improves traction for pedestrians and equestrians. —*Courtesy of Kandee Haertel.*

crosses Sawmill Creek, the rails and main trail are as close as 250 feet (76.2 meters) for about 225 feet (68.6 meters), although the trail is outside the rail corridor. In the southwest corner of the preserve, an infrequently used railroad spur line lies within 30 feet (9.1 meters) of the trail for about 500 feet (152.4 meters). There are no formal crossings of the railway corridor, nor are there any fences separating the preserve or trail from the rails. The public is not encouraged to travel there, and approaching trains issue warning blasts on their horns. Trail users informally adjust to the rail use, and so far, planners have received no reports of conflicts between riders and trains.

Resource Roundup

Waterfall Glen Forest Preserve

For more information, visit *http://www.dupageforest.com/PRESERVES/waterfallglen.html*.

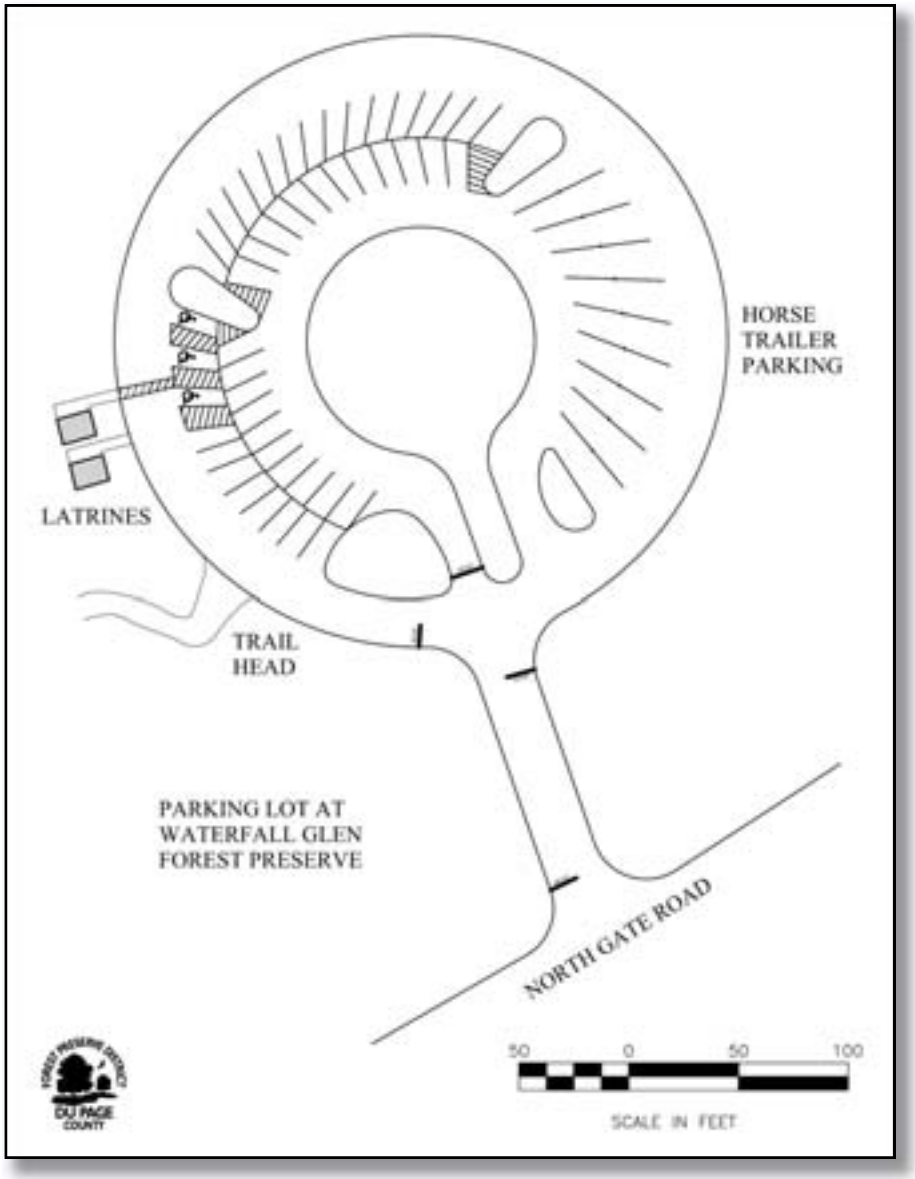


Figure 16–22—The parking lot at Waterfall Glen Forest Preserve. —*Courtesy of the Forest District of DuPage County, IL.*

Equestrian Trailheads and Campgrounds With High Development

Highly developed trailheads and campgrounds often are close to urban areas or in frequently visited recreation sites. They also may serve large trail networks. Each of the following examples provides maximum recreation opportunities for riders as well as shared-use opportunities for other recreationists.

Frazier Recreation Site—Tonto National Forest, Roosevelt, AZ

The Frazier Recreation Site (figure 16–23) nestles in the Sonoran Desert at Roosevelt Lake, one of Arizona's most outstanding water-based recreation areas. The lake is the largest of four reservoirs within a 2-hour drive of Phoenix and Tucson. The facility has the first lakeside horse camp built in the Southwestern Region of the Forest Service. From the recreation site, trail users access the Arizona Trail, an 800-mile (1,287-kilometer), nonmotorized trail.

When developing the recreation site, the landscape architect and engineers faced these design challenges:

- ☆ Site vegetation must remain undisturbed, by agreement with the Arizona Game and Fish Department.
- ☆ All permanent facilities, such as toilet buildings, must be located above the high water level.
- ☆ The recreation site must include picnicking opportunities for visitors who don't ride stock.
- ☆ Equestrian amenities must be purchased with nonproject funds.

New facilities were built on a 3-acre abandoned administrative site with a large asphalt parking area and several building foundations. The facilities included an interpretive site, a nonequestrian day-use area, and a horse camp that accommodates single parties and groups.

The single-party camping area was constricted and required a unique layout. Working with the Arizona State Horseman's Association, designers created a high-density layout (figure 16–24). Association members said lake views outweighed density concerns in this case.

The popular equestrian area has eight single-party camp units, two of which are accessible. The camp units (figure 16–25) have pullthrough parking pads with compacted aggregate surfaces. Each camp unit has a shelter, a picnic table, a combination fire ring and grill, and a single corral set. A several-party camp unit (figure 16–26) accommodates three equestrian parties. Steep terrain restricts the installation of horse corral sets there, but the pullthrough parking pads have enough space for portable corrals or for tying stock to trailers. The horse and living areas are surfaced with decomposed granite that is compacted only in the living areas. The accessible camp units have firm and stable surfaces in the living areas. A map at the visitor information station notes the locations of the accessible camp units.

A natural drainage, thick desert vegetation, and 200 feet (61 meters) separate the equestrian group camp from the equestrian single-party camp units. The 50-person equestrian group camp (figure 16–27) is about 200 by 250 feet (61 by 76.2 meters). The site's topography determined the shape of the compacted decomposed granite parking area, which has no designated parking spaces. The paved and accessible equestrian group gathering area has six picnic tables under a shelter, two group pedestal grills, a serving table, and a fire ring that is 6 feet (1.8 meters) in diameter (figure 16–28).

The nonequestrian day-use area includes 26 picnic units that accommodate single parties, double parties, and groups. The picnic units have picnic tables and access to a single or group pedestal grill. Most have a shelter, although two of the picnic units are under large canopy trees, eliminating the need for shelters. A cove in the lake separates the nonequestrian and equestrian areas.

Desert trees were planted for shade in both the day-use area and campground. Flush toilets and dumpsters are available in both areas. Dumpsters in the equestrian area accommodate trash and manure. Visitor information stations are at the day-use area, the single-party campground, and the group gathering area. The day-use area also has an interpretive plaza.

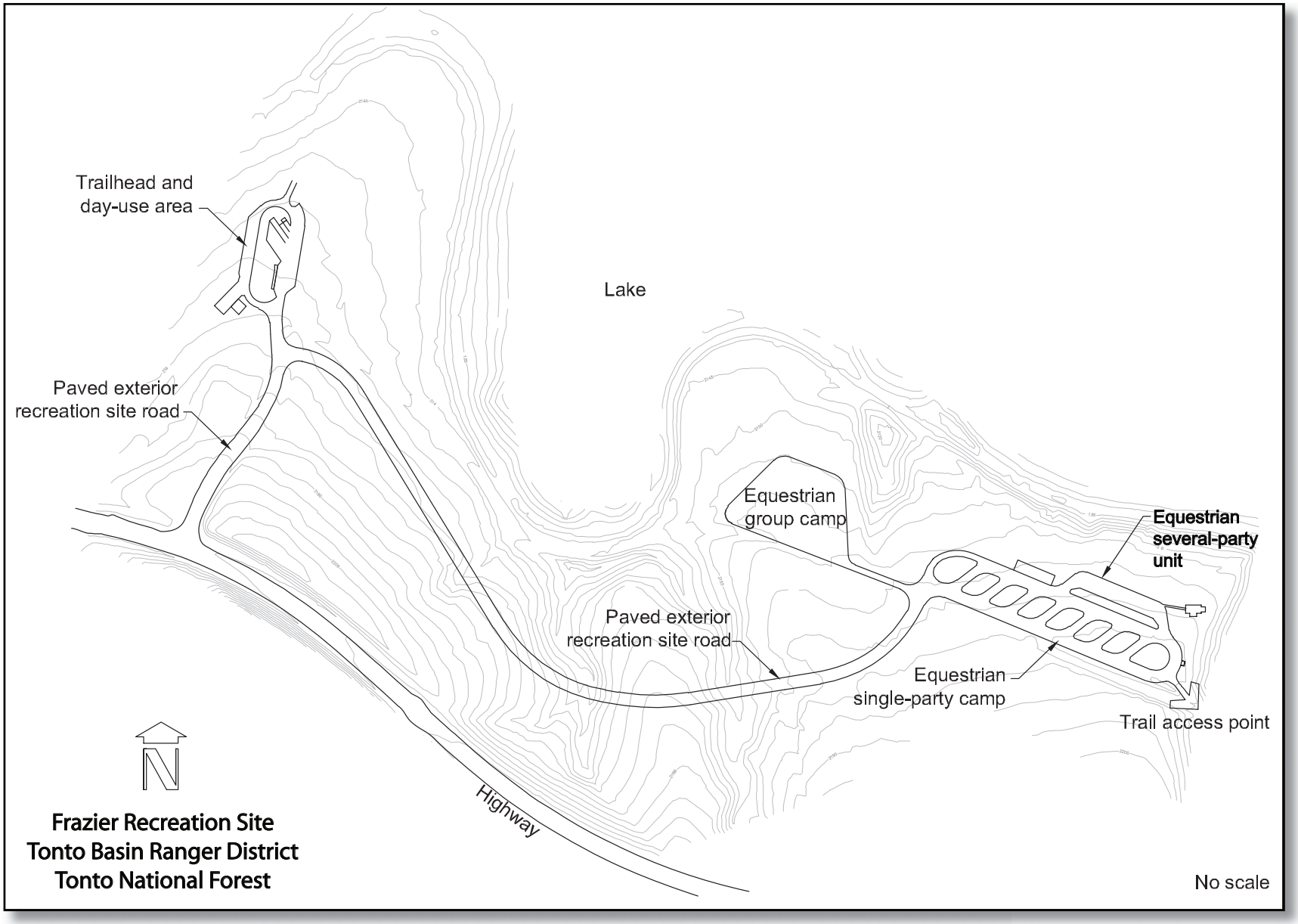


Figure 16–23—The Frazier Recreation Site in the Tonto National Forest.

Figure 16–24—This high-density site accommodates many riders at a time and is very popular.

Figure 16–27—The equestrian group site accommodates 50 people.

The Bureau of Reclamation provided funding for facilities such as roads, gates, signs, toilet buildings, water hydrants, an interpretive plaza, shelters, and site amenities. Volunteers donated materials and labor to build steel pipe corrals (figure 16–29). The Forest Service donated water troughs, and members of the Backcountry Horsemen of America donated materials and labor for hitch rails. This recreation site is an example of successful cooperation between public agencies and volunteers.

Figure 16–25—Camp units have excellent lake views. Each site has a pullthrough parking pad, a shelter, a picnic table, a combination fire ring/grill, and a set of single corrals.

Figure 16–28—The accessible group site has a shelter, six picnic tables, two group pedestal grills, a serving table, a lantern hanger, and a large fire ring.

Figure 16–29—Volunteers donated materials and built the corrals.

Figure 16–26—A several-party camp unit accommodates up to three equestrian parties. Space limitations preclude corrals.

Resource Roundup

Frazier Recreation Site

For more information, visit *http://www.fs.fed.us/r3/tonto/recreation/rogs/camping/Tonto%20Basin/Frazier.pdf.*

Stonegate Equestrian Park—Scottsdale, AZ

Stonegate Equestrian Park (figure 16–30) is a 23-acre facility in northeastern Scottsdale, AZ. Many commercial and residential horse owners live in the area. The park has two horse arenas, a round pen, nature trail, playground, picnic area, shelters, and a multiuse room. The trailhead is designated for day use and accesses several popular trail systems.

The parking area has space for vehicles pulling horse trailers. The decomposed granite surface is compacted and has parking markers. Curbs that are level and almost flush with the adjacent surface alleviate tripping as stock leave the area. Light fixtures in the parking area comply with city light pollution guidelines.

The park has a gated entrance and perimeter fence. Both arenas have sprinkler systems that users can turn on as needed. One arena has lights that users operate with a timer. The park provides water troughs (figures 16–31 and 16–32), hitch rails, and manure bins.

A shelter houses two restrooms and the multiuse room. The structure includes large overhangs covering a patio with picnic tables and benches (figure 16–33). A small children's park with playground equipment is nearby.

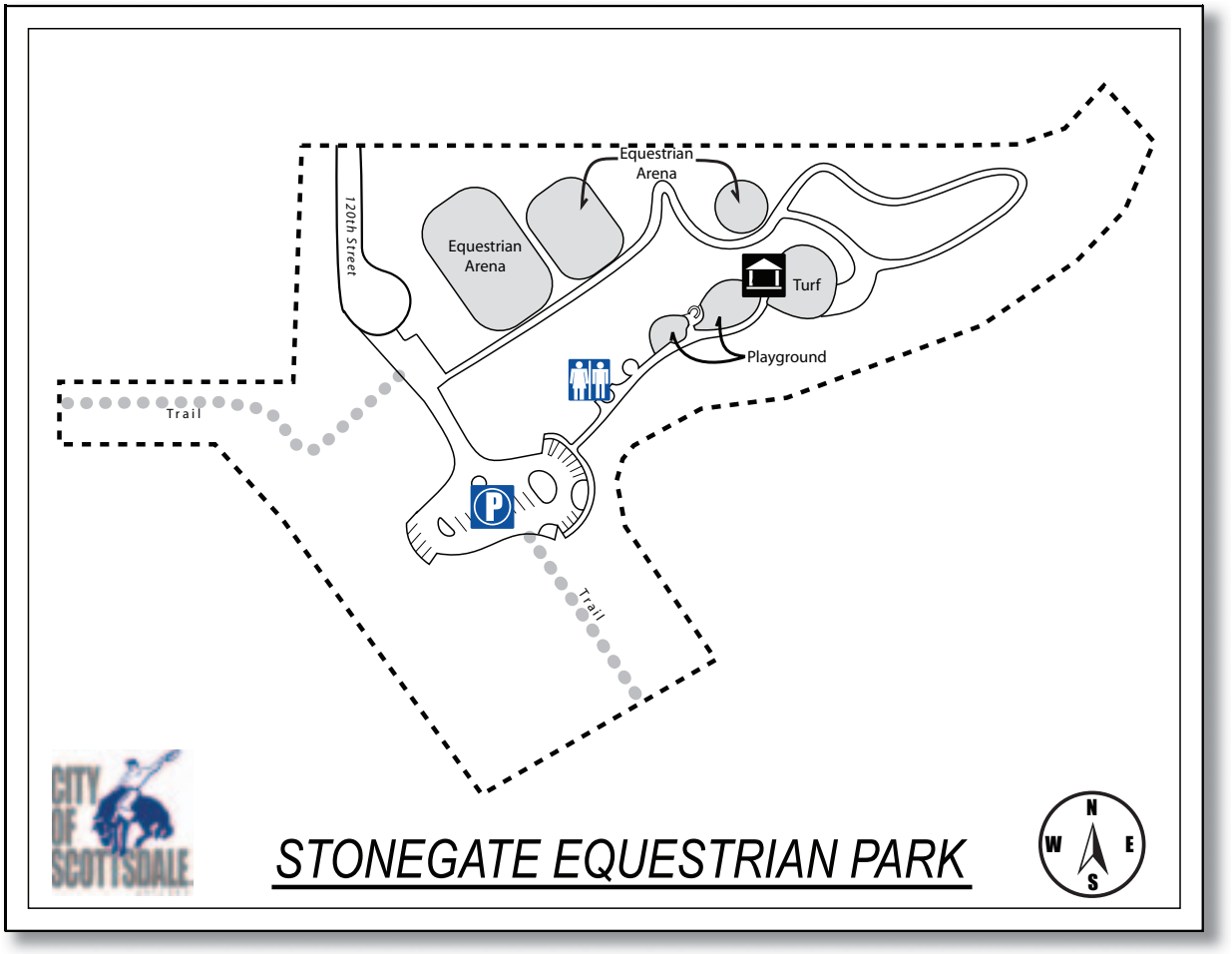


Figure 16–30—The Stonegate Equestrian Park in Scottsdale, AZ. —*Courtesy of City of Scottsdale, AZ.*

Figure 16–31—Stonegate Equestrian Park features a raised water trough with hand-operated fill and drain controls.

Figure 16–32—The shallow basin fills quickly and is easy to clean.

Figure 16–33—The shelter at Stonegate Equestrian Park includes two restrooms and a multiuse room. Picnic tables and benches fit under the large overhang.

Resource Roundup

Stonegate Equestrian Park

For more information, visit *http://www.scottsdaleaz.gov/parks/neighborhood/stonegate.asp.*

Horseshoe Park and Equestrian Centre—Queen Creek, AZ

Queen Creek, AZ, has traditionally been a rural community with large agricultural acreages. The area has a high concentration of horse properties, and many youth activities center on farming and livestock, particularly horses and ponies.

As commercial growth and planned residential development increased, the community developed a master plan for the Horseshoe Park and Equestrian Centre. The proposed park site is a landfill area slated for closure, near San Tan Mountain Park, a large open space with recreation trails for riders and other nonmotorized users. Eventually, shared-use trails will connect to Horseshoe Park and Equestrian Centre, many equestrian residential properties, and San Tan Mountain Park.

The *Parks, Trails, and Open Space Master Plan* is notable because of public involvement during the planning process. After touring area sites, a citizen subcommittee of the Parks, Trails, and Open Space Committee developed a public involvement plan, a vision statement, and a list of high-priority amenities. A landscape architectural firm created a set of conceptual plans. Three public open houses were held. After changes were made, the town council unanimously approved the final master plan and a tentative completion date was set. The town is using the construction manager at-risk process, which binds the design team and the contractor to work together before and during construction for faster, more cost-efficient completion.

The final master plan for the park includes an equestrian event area, a community park, and trails. The master plan design (figure 16–34) accommodates different types of community events, such as dog shows, livestock shows and auctions, concerts, and youth-oriented programs that attract up to 3,000 spectators. The facility plan reflects year-round day and evening use. The proposed equestrian event area includes four lighted arenas (one is covered). It also contains livestock pens and chutes, stalls, motorhome hookups, trailer parking, wash racks, a restroom and concession building, vendor areas, an administration building, spectator seating, and a maintenance facility. The community park has a playground, a group picnic area, a toilet building, an arena for community use, a round pen, an open turf area, and an amphitheater. The area has 1.5 miles (2.4 kilometers) of shared-use trails with a scenic overlook at the highest point of the landfill. The unpaved trails are designed for nonmotorized users and meet accessibility guidelines.

The project has two phases: The first phase will develop 33 acres containing the equestrian center and amenities, motorhome hookups, trailer parking, vendor areas, concessions, showers, restrooms, offices, and maintenance facilities. Trails, a small park and amphitheater, picnic shelters, and a mountaintop gazebo will be constructed during the second phase.

Figure 16–34—The Horseshoe Park and Equestrian Centre in Queen Creek, AZ. —*Courtesy of Town of Queen Creek, AZ.*

Resource Roundup

Queen Creek Parks, Trails, and Open Space Master Plan

The *Parks, Trails, and Open Space Master Plan* (HDR and others 2005) is available at *http://www.queencreek.org/Index.aspx?page=198*. For more information about Horseshoe Park and Equestrian Centre, visit: *http://www.queencreek.org/Index.aspx?page=196*.

WestWorld and WestWorld Trailhead—Scottsdale, AZ

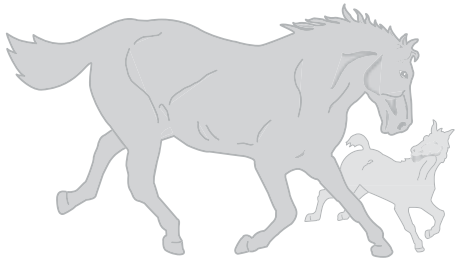
WestWorld is a very large equestrian facility where some of the nation's largest horse shows are held, including the Arabian Horse Show and the American Quarter Horse Association's Sun Circuit Show. WestWorld facilities include many arenas, barns, and exhibit facilities that can accommodate shows with over 1,000 horses (figure 16–35). Two 100-foot (30.5-meter) arenas with sprinkling systems accommodate horse activities (figure 16–36).

WestWorld is an example of Government interagency cooperation—Scottsdale operates the facility under a license from the U.S. Department of the Interior Bureau of Reclamation. WestWorld sits in a massive retention basin on lands managed by the Bureau of Reclamation just north of the Central Arizona Project Canal. The canal carries water from the Colorado River to central portions of Arizona. The basin is designed to hold stormwater runoff. Flooding is a recognized—and distinct—possibility.

Scottsdale's recreation trail system skirts WestWorld and can be accessed from the WestWorld Trailhead, a large public facility that accommodates pedestrians, bicyclists, and riders. Partly because of its proximity to WestWorld's other equestrian facilities, the trailhead receives substantial use from riders. The road and parking areas at the trailhead are constructed of decomposed granite with a stabilizer. This treatment reduces dust and creates a firm and stable surface that is accessible. Accessible parking spaces are adjacent to a shade structure with picnic tables and restrooms. Concrete edge curbs are flush with adjacent surfaces to hold surface material in place without presenting a tripping hazard. An accessible route leads from the parking area to the shade structure.

Equestrian parking spaces are 70 feet (21.3 meters) long and 24 feet (7.3 meters) wide (figure 16–37). Concrete markers delineate pullthrough spaces arranged in a fishbone pattern. Additional parking spaces along the perimeter of the trailhead are for extra-long horse trailers. All trail users have immediate access to the nonmotorized trail system. Well-positioned bollards prevent motor vehicles from accessing trails.

The trailhead includes separate parking areas for equestrians and other trail users. Amenities include a water trough and lighting. Riders must fill the water trough. A simple automatic drain empties the water after each use (figure 16–38). There is a large dumpster for manure (figure 16–39). WestWorld Trailhead lighting fixtures adhere to city light pollution guidelines.



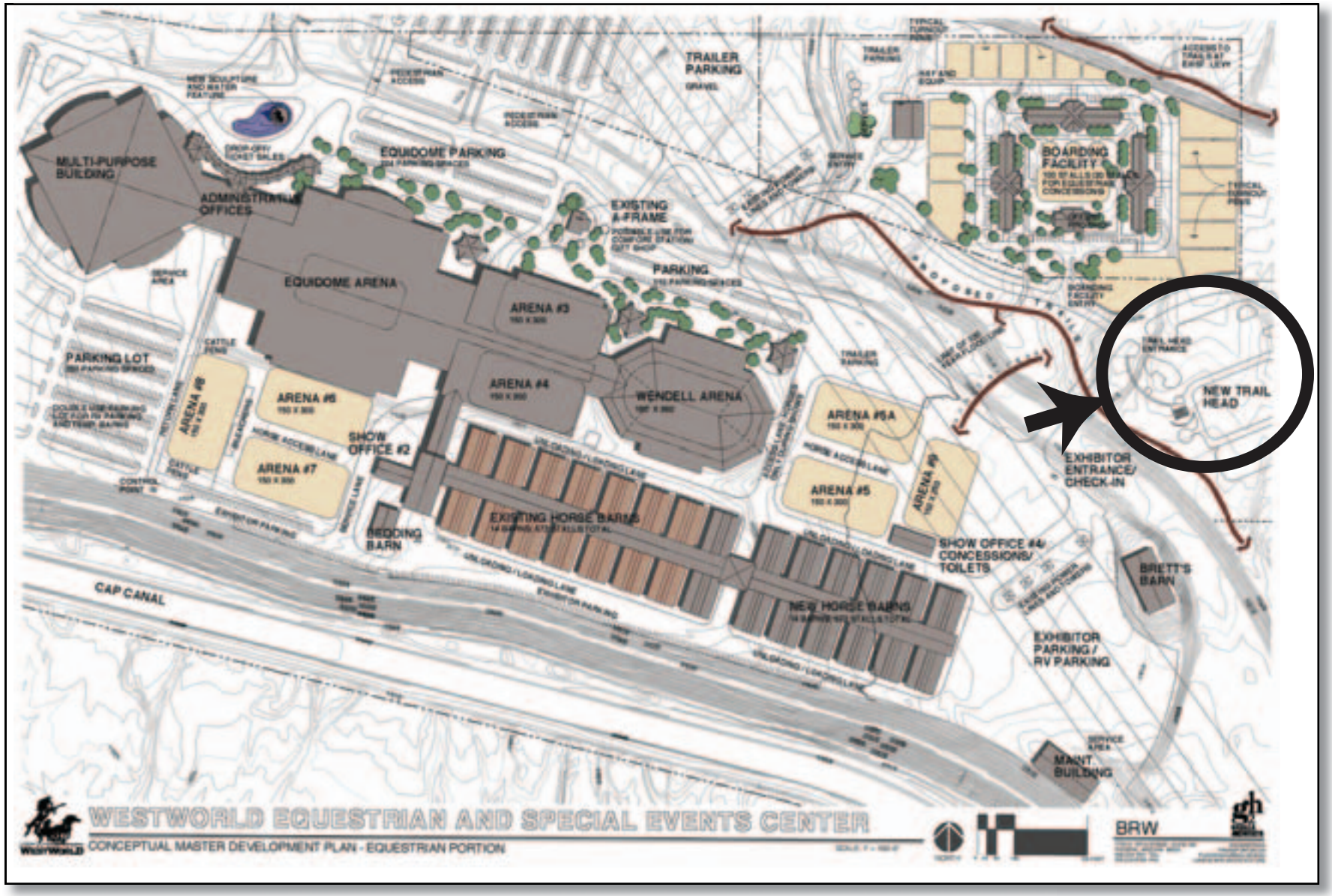


Figure 16–35—The WestWorld Equestrian and Special Events Center in Scottsdale, AZ. The horse trails are accessed from the new trailhead (circle). —*Courtesy of City of Scottsdale, AZ.*

Figure 16–36—The center has two 100-foot arenas.

Figure 16–38— A shallow water trough is convenient for riders and allows stock to keep an eye out while they drink.

Figure 16–37—Equestrian parking spaces are 70 feet long and 24 feet wide. The spaces are arranged in a fishbone pattern and delineated with concrete markers.

Figure 16–39— A dumpster is provided for convenient manure disposal.

Resource Roundup

WestWorld

For more information, visit *http://www.scottsdaleaz.gov/westworld*.