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PINAL COUNTY
Arizona

Open Space and Recreation Area
Guideline Manual
January 18, 2012

Pinal County

Open Space and Recreation Area Guideline Manual

TABLE OF CONTENTS

1.0	Introduction and Purpose	1
2.0	Definitions	1
3.0	Pinal County Open Space Design Guidelines	1
3.1	General Open Space Design Guidelines	2
3.2	Developed Open Space Guidelines	2
3.2.1	Storm Water Retention and Detention Basins	2
3.2.2	Streetscapes and Entryways	3
3.3	Conservation Open Space Guidelines	4
4.0	Pinal County Recreation Area Design Guidelines	4
4.1	Recreation Area Definitions	5
4.2	General Recreation Area Design Guidelines	5
4.3	Recommendations for Recreation Areas	6
4.4	Landscape Recommendations for Recreation Areas	10
5.0	Pinal County Multi-Use Path and Trail Design Guidelines	10
5.1	Trail Classifications	10
5.2	Design Standards.....	11
5.3	Trail Section Definitions.....	13

LIST OF FIGURES

Figure 1.	Prototypical PAD Subdivision	2
Figure 2.	Prototypical Street Landscape Buffers	3
Figure 3.	Prototypical Recreation Area.....	9
Figure 4.	Separated Urban/ Suburban/ Rural Multi-Use Path Corridor	16
Figure 5.	Separated Rural Multi-Use Trail Corridor	17
Figure 6.	Remote Multi-Use Trail Corridor.....	18
Figure 7.	Separated Remote Multi-Use/OHV Trail Corridor	19
Figure 8.	Remote OHV Trail	20
Figure 9.	Clearance from Remote Multi-Use Trail to Wash.....	21
Figure 10.	Open Space and Multi-Use Path and Trail Setback.....	22

LIST OF TABLES

Table 1.	Suggested Minimum Facilities for Recreation Areas.....	7
Table 2.	Suggested Recreation Facilities Program Criteria	8
Table 3.	Pinal County Path and Trail Recommendations.....	15

1.0 Purpose

This Open Space and Recreation Area Guideline Manual (OSRAM) provide guidelines for developers and their consultants to determine the combination of developed and conservation open space area required for their proposed development.

The guidelines identified within this OSRAM will assist in achieving high quality open space and recreational amenities that will provide a quality of life and sense of place desired by county residents.

This OSRAM identifies criteria for open space, recreation areas, and multi-use path and trail guidelines for all new residential portions of Planned Area Developments (PAD) and is organized into the following sections:

- Section 2.0** *Definitions*
- Section 3.0** *Pinal County Open Space Design Standards*
- Section 4.0** *Pinal County Recreation Activity Area Design Standards*
- Section 5.0** *Pinal County Multi-Use Path and Trail Design Standards*

All new applications for residential portions of PADs should consider the guidelines of each section mentioned above.

The Pinal County Planning & Development Department is available to assist with questions or clarifications concerning the information and processes identified within this manual.

2.0 Definitions

Definitions for the purpose of this Manual are as follows:

Active Recreation:

Recreational activities that require organized or programmed facilities that are oriented toward a group, team, or competitive environment such as sports fields, sport courts, sport tracks, swimming pools, etc.

Habitat Areas:

Native vegetative areas that are typically undisturbed and in a relatively pristine state that provide optimal wildlife cover, food, and water availability; and/or serve as wildlife movement corridors or migratory routes.

Passive Recreation:

Recreational activities that utilize more leisure-oriented facilities located within landscaped or natural environments such as picnicking, walking, hiking, table games, wildlife watching, etc.

3.0 Open Space Design Guidelines

The purpose of this section is to establish the recommended minimum design guidelines for open space within proposed developments that provide a quality of life and sense of place desired by its residents.

This section of the OSRAM is organized into the following subsections:

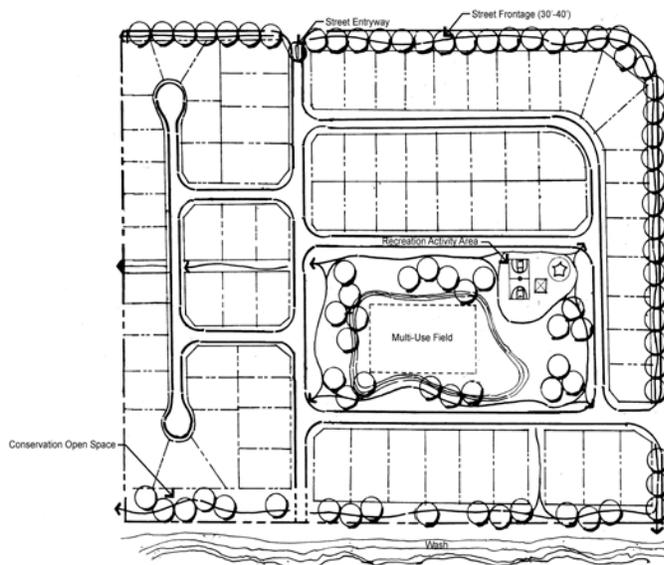
- Section 3.1 General Open Space Design Guidelines
- Section 3.2 Developed Open Space Guidelines
- Section 3.3 Conservation Open Space Guidelines

3.1 General Open Space Design Guidelines

Open space should be located and designed as a community amenity and provided with each phase of a development. It should be highly visible to the public to encourage community use and awareness.

The lot layout and design of the proposed development should be developed around open space areas rather than the open space developed around the lots and retention/detention areas. An example of a prototypical development lot layout is shown below in Figure 1.

Figure 1. Prototypical PAD Subdivision



Open space should be provided in a manner where it is easily visible and accessible. A good measure of accessibility is providing recreation areas and multi-use paths and trails within a 1,000-foot radius from each dwelling unit.

The fragmentation of open space is strongly discouraged.

Development should be located on the site so as to protect hillsides and ridge lines.

Development should identify and address issues generated in geologically hazardous areas.

3.2 Developed Open Space

3.2.1 Storm Water Retention and Detention Basins

Reasonable effort should be made to conserve the natural drainage patterns. Retention/detention basins designed to handle surface water runoff and overflow are required to be constructed so as to appear natural in appearance following the natural landforms to the greatest extent possible. If such forms do not exist, the basin should be shaped to have meandering edges with varying slide slopes from 4:1 to 10:1.

Grade changes in open space areas should occur gradually, not abruptly. Side slopes should be varied to imitate natural condition.

Retention/detention basins designated as developed open space should be located so they are visible, attractive, and accessible. Avoid hidden basins, which do not provide visibility and may create safety concerns.

Live vegetative plant material should consist of: a) a minimum of fifty percent (50%) vegetative groundcover that does not exceed eighteen (18) inches in height, and b) no more than fifty percent (50%) trees and shrubs. Tree and shrub coverage area will be determined by calculating two-thirds (2/3) the mature canopy size of the tree and/or shrub.

Shrubs with a minimum size of five (5) gallons should be planted at a rate of seven (7) shrubs per 1,000 square feet of surface area provided.

To provide variety to the landscape, the clustering of trees and shrubs is encouraged. Regular on-center spacing or linear placement of trees and shrubs in retention/detention basins is not recommended.

The minimum width of the landscape area between the top of slope of retention/detention basins and any existing or proposed property line, internal lot line, or street right-of-ways should be five (5) feet.

A minimum two inch depth of ½-inch minus, or larger, decomposed granite should be specified on landscape plans for all planted areas within retention/detention basins.

Drainage improvements within natural areas should be landscaped and constructed to replicate a natural desert or wash area.

Where the size of the bridges over retention/detention areas and drainage-ways must be a minimum of 12 feet high and 12 feet wide in order to accommodate water flows, grade separated crossings should be used at parkway, arterial and major collector roadway crossings of the County trails and multi-use trails that are depicted in the Comprehensive Plan

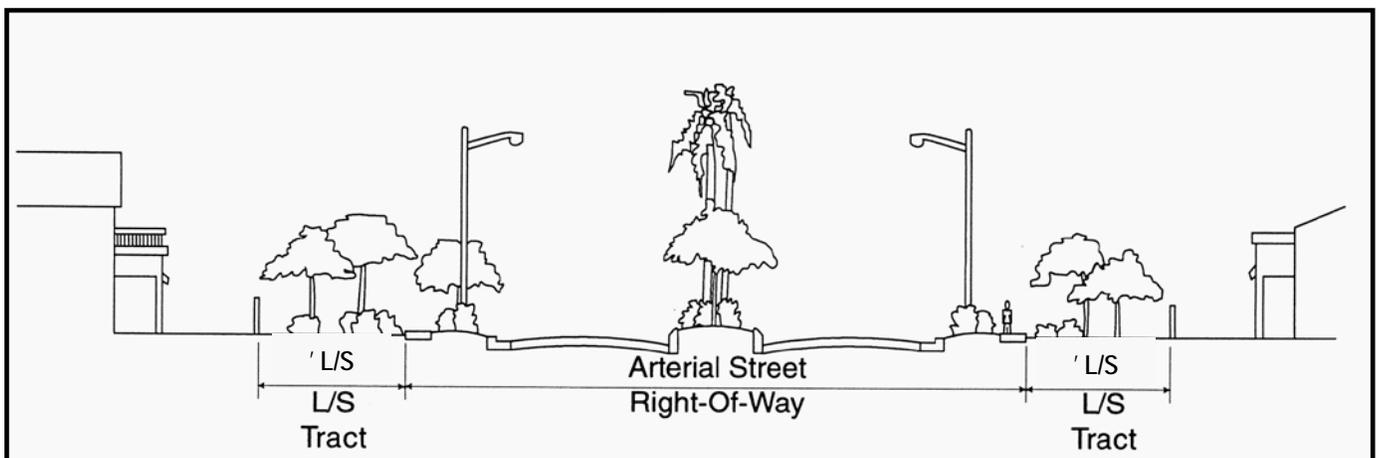
3.2.2 Streetscapes and Entryways

Landscape buffers or tracts in addition to the street right-of-way landscaping are common along the perimeter of residential developments where they front onto major streets to provide scenic desert landscaping and a sense of openness for the community. To assure there is adequate room to convey the sense of open space, the width of the landscape tract along the major street frontages should be as follows:

- Arterial Street Frontage: meandering tract between 15 and 20 feet in width
- Collector Street Frontage: meandering tract between 10 and 15 feet in width

Refer to Figure 2, Prototypical Street Landscape Buffers.

Figure 2. Prototypical Street Landscape Buffers



The tract should meander, be aesthetically designed

Enhanced landscaping at the main entrances of the proposed development should be provided to make a distinctive statement about the community and provide a sense of arrival. Collector streets with landscaped medians, detached sidewalks, and enhanced landscaping may be developed to create a boulevard effect.

Provide a natural native desert (or regionally compatible) plant pallet of trees, shrubs and ground covers grouped and arranged to create interesting patterns and textures.

Shrubs with a minimum size of five (5) gallons should be planted at a rate of five (5) shrubs per thirty (30) feet of linear street frontage.

Clustering of trees and shrubs is encouraged to accent focal points or landmarks and to provide variety to the streetscape. Contouring of the ground and placement of mounds and earth berms along streets is recommended.

A minimum of twenty-five (25) percent of all frontage landscaped areas should be covered with vegetative or organic groundcover consisting of living plant materials characterized by horizontal growth which generally does not exceed eighteen (18) inches in height.

A minimum two inch depth of ½-inch minus, or larger, decomposed granite should be specified on landscape plans for all planted areas.

3.3 Conservation Open Space Guidelines

Conservation areas should be contiguous to any existing or planned conservation area located adjacent to the proposed development.

The fragmentation of conservation lands is strongly discouraged.

Conservation areas should not impede wildlife movement. They should protect, maintain, or create wildlife habitat opportunities and provide interconnectivity for wildlife populations throughout the proposed development and the County's open space system.

Conservation areas should include the most sensitive resource areas on the property including but not limited to slopes greater than 15%, riparian areas, natural washes, etc.

Natural drainage-ways provide natural storm water management, areas for groundwater recharge, wildlife corridors, and can provide valuable natural linkages to adjacent areas. Reasonable effort should be made to conserve the natural drainage patterns

Areas that contain prehistoric or historic archaeological remains, are subject to local, State and Federal antiquity laws.

Access to and through Conservation Open Space areas may be provided in the form of multi-use paths and trails. Trails may be allowed in locations that do not negatively impact the habitat value. The total area covered by the path or trail tread width should be no more than 2 percent of the total open space area. Trails should be ADA accessible at all trailheads and main features as required.

Landscaping in conservation open space areas should be native on-site species only. Native hydro seed may be utilized to re-establish native plant populations in disturbed areas. The native hydroseed mix should include plant species and seeding rates that replicate the natural plant associations and densities of the adjacent natural landscape

4.0 Pinal County Recreation Area Design Guidelines

The purpose of this section is to establish the minimum design criteria and guidelines for recreation areas within proposed developments to meet the active and passive recreation needs of its

residents. The intent of the recreation facility guidelines identified within this section is to provide a comparable level of recreational experiences based on the population generated by the development. The amenities will be determined during the review of the Open Space and Recreation Plan (OSRP).

4.1 Recreation Area Definitions

Suggested minimum facilities for recreation areas have been provided to guide the development of recreational amenities. Suggested facilities have been provided for three target groups, family, adult and natural oriented communities. The target groups listed within this section are not to be considered all inclusive, rather they are intended to provide general guidance in the development of Planned Area Developments. Family oriented communities, adult oriented communities and natural communities are described below and the suggested minimum facilities for each listed community type are summarized in Table 1.

Family

Family oriented communities are typically characterized by having lots under ½ acre in size, slopes less than six percent and/or are not identified as an Adult Community within the PAD application. Recreational amenities within these communities should approach National Recreation and Park Association (NRPA) standards.

Adult

Adult oriented communities are described as an Adult Community within the PAD application

Natural

Natural communities are typically characterized by having lots over ½ acre in size and/or slopes greater than six percent.

Projects that differ from the above categories are encouraged to propose recreation area uses in their OSRP.

4.2 General Recreation Area Design Guidelines

Recreation areas should be provided in a manner where they are easily visible and accessible from all lots or dwelling units they serve.

Playground/tot lot equipment should include but not be limited to, slides, swings, pre-manufactured structures that meet the National Playground Safety Institute Standards requirements for age groups 2 to 5 years old and 6 to 12 years old.

Tot lots and other active play equipment should be covered with a shade structure.

Tot lots and other active play equipment should be located within 100 feet of a local street to be visible and easily accessible.

Seating areas should be located in appropriate locations to provide supervision of activities. Seating areas shall incorporate shade.

All recreation areas within the development should be connected through a multi-use path or trail system. The multi-use path or trail system should provide linkages to open space, recreation areas, trails, paths, bikeways, schools and commercial parcels within the proposed development as well as to adjacent neighborhoods and communities, and the County's trail system, if applicable.

Developments providing baseball and softball fields should group these facilities with basketball courts and racquet sports courts in a larger centralized recreation area.

Where recreational facilities are part of a larger centralized recreation area, the facilities should have adequate lighting to provide maximum usability, see Table 1 for suggestions on facility lighting.

Light fixtures and poles should be selected to be attractive, durable, and vandal resistant and to match with the established architectural character.

Where lighting is provided for pathways, trails, ramadas, parking and security the lighting should be designed to be operated as an automatic dusk to dawn system.

Path lighting, where provided, should be low level and low intensity; but adequate enough to maintain an acceptable level of safety.

All lighting shall meet the requirements of Chapter 2.195 of the Pinal County Development Services Code.

Areas that have identified themselves as having a dark sky focus will have special consideration in the lighting of recreation facilities to further the dark sky goal.

At minimum, 33% of the larger centralized recreation area amenities should be constructed and operational by the time 25% of the of the total allowable dwelling units have had a final inspection, 66% of the larger centralized recreation area amenities should be constructed and operational by the time 50% of the of the total allowable dwelling units have had a final inspection, and 100% of the larger centralized recreation area amenities should be constructed and operational by the time 75% of the of the total allowable dwelling units have had a final inspection. All other recreation area facilities should be constructed and operational by the time 75% of the dwelling units for the phase in which the facilities are located have had a final inspection.

Facilities such as softball and baseball fields that are located on a school site within the development may be counted towards the community amenities required as part of the approved PAD and OSRP provided that a joint use agreement is in place between the school and developer/ the Homeowners Association to allow for use of the facility by both the school and the community residents. These areas may not be counted towards the required open space percentage.

4.3 Minimum Recommendations for Recreation Areas

Table 1, Suggested Minimum Facilities for Recreation Areas, identifies the minimum number of recommended features for a community based on the approximate number of dwelling units. Table 2, Recreation Facilities Program Criteria, identifies the size and level of play for specific recreation facilities within recreation areas.

Table 1. Suggested Minimum Facilities for Recreation Areas

Type / Size	All Developments	Approximately 1000 dwelling units	Approximately 2000 dwelling units	Approximately 3000 dwelling units	Approximately 4000 dwelling units
Family	Paths in addition to sidewalks	Paths in addition to sidewalks One Acre Turf Field 1 Play Structures 1 Picnic Ramada	Paths in addition to sidewalks One Acre Turf Field 2 Play Structures 3 Picnic Ramada 1 Little League Baseball Field (LT) 1 Softball Field (LT) 1 Basketball Court (LT) 2 Racquet Sports Court	Paths in addition to sidewalks One Acre Turf Field 3 Play Structures 4 Picnic Ramada 1 Little League Baseball Field (LT) 1 Softball Field (LT) 1 Basketball Court (LT) 4 Racquet Sports Court	Paths in addition to sidewalks One Acre Turf Field 1 Soccer Field 4 Play Structures 6 Picnic Ramadas 1 Little League Baseball Field (LT) 1 Official Baseball Field (LT) 2 Softball Field (LT 1) 2 Basketball Court (LT) 6 Racquet Sports Court Community Building
Adult	Paths in addition to sidewalks	Paths in addition to sidewalks 1 Picnic Ramada	Paths in addition to sidewalks 2 Picnic Ramada 2 Racquet Sports Court	Paths in addition to sidewalks 3 Picnic Ramada 2 Racquet Sports Court 1 Softball Field (LT) 1 Basketball Court (LT)	Paths in addition to sidewalks 4 Picnic Ramadas 4 Racquet Sports Court 1 Softball Field (LT) 1 Basketball Court (LT) Community Building
Natural	Paths in addition to sidewalks	Paths in addition to sidewalks 1 Picnic Ramada	Paths in addition to sidewalks 2 Picnic Ramada 1 Basketball Court (LT) 2 Racquet Sports Court 1 Play Structures	Paths in addition to sidewalks 3 Picnic Ramada 1 Basketball Court (LT) 2 Racquet Sports Court 2 Play Structures 1 Softball Field	Paths in addition to sidewalks 4 Picnic Ramada 2 Basketball Court (LT 1) 4 Racquet Sports Court 3 Play Structures 2 Softball Field (LT 1) Community Building

** Communities that are larger than 4500 du should also consider adding facilities such as swimming pools, dog parks, skate parks, and water play and spray areas

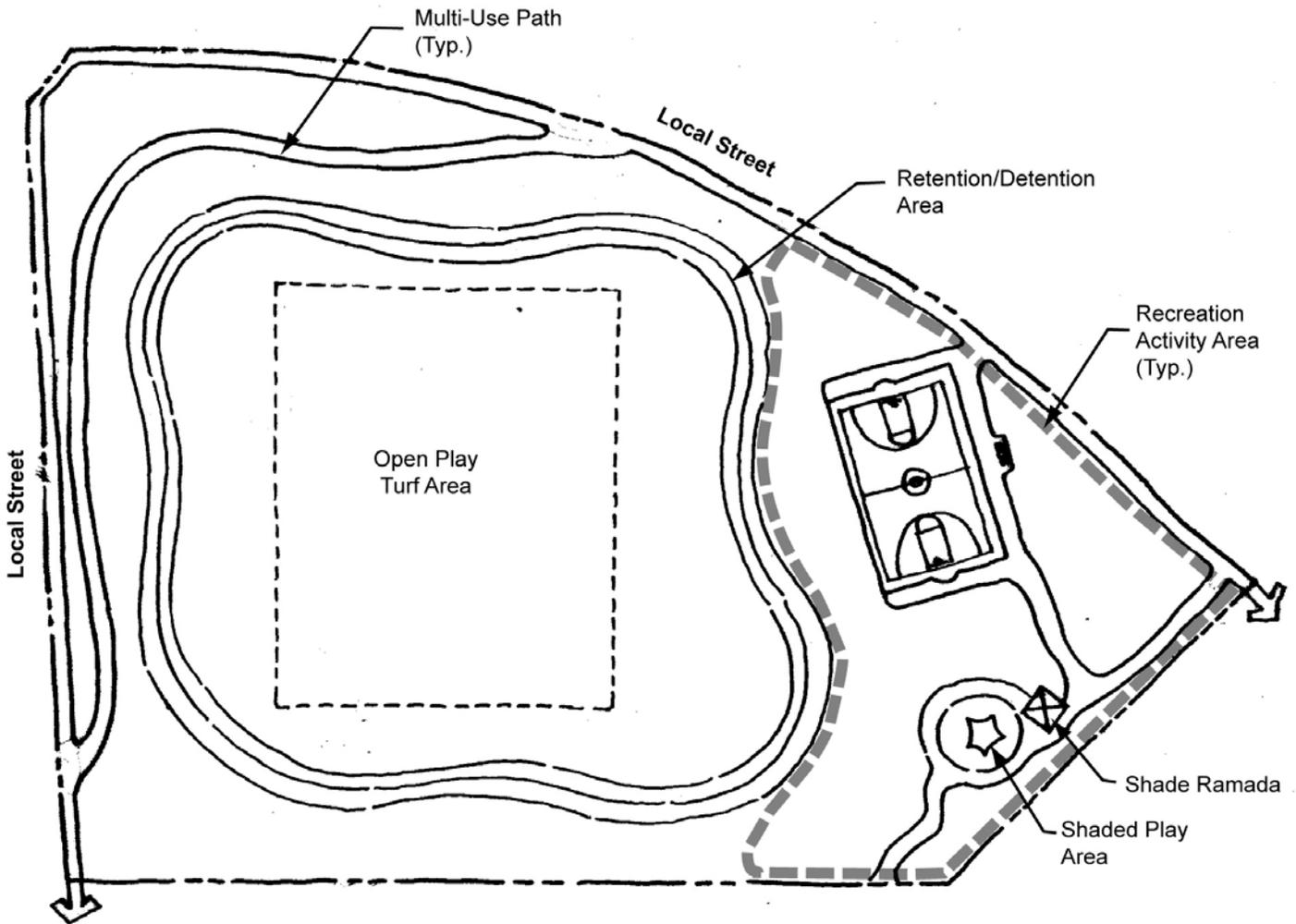
(LT) indicates that the identified facility should be lighted. Lighting is also suggested for sports courts in centralized recreation areas.

Projects that differ from the above categories are encouraged to propose recreation area uses in their OSRP. These suggested facilities are not intended to be construed as required facilities, other recreational facilities may be substituted to meet the projects target market and design goals.

Table 2. Suggested Recreation Facilities Program Criteria (Size and Level of Play)

FACILITY/USE	REMARKS	Size & Level of Play
Sports Fields		
Little League Baseball Fields (50 parking spaces/field)		60' baseline; 225' foul line; bleachers; dugouts/each; (200' fence for little league)
Official Baseball Field (50 parking spaces/field)		90' baseline; 350' foul line; bleachers; dugouts/each
Softball Fields (50 parking spaces/field)		60' and 65' baselines; 325' foul line; bleachers; dugouts/each (12" slow pitch)
Soccer Fields (50 parking spaces/field)		360'L x 240' W; bleachers/each
Multi-Use Fields (50 parking spaces/field)	Accommodates soccer, Pop Warner, lacrosse, rugby, speedball, etc.	
Shade Ramadas		16' x 16'
Playground Area		1 Tot Lot (Ages 2-5; 30 ft dia.) 1 Play Area (Ages 6-12; 60 ft dia.) (design as one containment area)
Sports Courts		
Basketball Courts		50' x 84' with a minimum 10' boundary
Sand Volleyball Courts		30' x 60" with a 20' boundary on the ends and a 15' boundary on the sides
Concrete Volleyball Courts		30' x 60' with a 10' boundary on all sides
Raquet Sports Courts		36' x 78' with a minimum boundary
Dog Park		
Grassed Area	1	5 acres; fenced; separate large/small dog areas
Ramada/Shade Structures	2	16' x 16'
Restrooms	1/shared	600 sq ft restroom
Multi-Use Recreation Center		
Meeting rooms, gymnasium, etc.		2 sf/residence Multi-purpose area, concessions, meeting and locker rooms, restrooms, etc.

Figure 3. Prototypical Recreation Area



4.4 Landscape Recommendations for Recreation Areas

Shrubs with a minimum size of five (5) gallons should be planted at a rate of seven (7) shrubs per 1,000 square feet of surface area provided.

A minimum two inch depth of ½-inch minus, or larger, decomposed granite should be specified on the landscape plans for all planted areas.

To provide variety to the landscape, the clustering of trees and shrubs is encouraged. Regular on-center spacing or linear placement of trees and shrubs in retention/detention basins is not recommended. Where space allows, provide tree grouping in groves rather than in a single row, unless the design dictates otherwise.

Reasonable effort should be made to conserve the natural drainage patterns. Retention/detention basins designed to handle surface water runoff and overflow should be constructed so as to appear natural in appearance following the natural landforms to the greatest extent possible. If such forms do not exist, the basin should be shaped to emulate a naturally formed depression.

To the fullest extent possible improvements should be sited so as not to disturb native trees, shrubs, or cacti. Where removal of this plant material cannot be avoided, all reasonable efforts shall be made to relocate this plant material into other areas of the development.

The grading plan for landscape areas should include contouring the land so that naturally-appearing topographic contours are established in the area.

A landscape theme should be established emphasizing the preservation and enhancement of native plant species.

Recommend a ten (10) foot clearance between the tree trunk and the edge of hardscape.

Recommend a minimum of thirty (30) foot clearance between trees or between trees and other vertical site improvements based on tree species.

When providing tree cutouts within hardscape areas, a minimum five-foot (5') diameter round or square cutout is recommended. When budgets allow, include tree grates.

Trees should be planted no closer than twenty (20) feet to any light fixture.

Plant trees to buffer the street frontage, to organize and define use areas on the recreation area site, to provide protection from wind and sun, and as a visual amenity to the recreation area.

5.0 Pinal County Multi-Use Path and Trail Design Guidelines

Multi-use paths and trails are an essential component of recreation and transportation in residential development design. The trail system, if planned carefully, will help to reduce traffic congestion, promote energy conservation, improve air quality, and provide local public health benefits and amenities for residents.

5.1 Trail Classifications

There are four classifications of trails—Urban, Suburban, Rural, and Remote (see Table 3, Pinal County Path and Trail Recommendations). The trail classifications reflect the setting in which the trails will be found.

Figures 4 through 10 identify prototypical layouts of trails in a variety of settings. These figures are provided as a guide and are intended to be an example of the different types of trail facilities. The type and design of the trail will be determined during the OSRP process by County staff.

Urban Trails

Urban Trails have a high intensity usage and are located in mixed use, commercial, residential and office areas. They are generally paved due to their high intensity usage. The typical urban trail users may include pedestrians, bicyclists, and in-line skaters. In some instances, where permitted, equestrian access may be allowed. If equestrian usage is also desired, a separate unpaved trail should be provided. Urban trails serve both recreation purposes and supplement transportation needs. Urban trails are typically used in the following areas: MD, MR, Office, Industrial.

Suburban Trails

Suburban Trails have a high to moderate intensity usage and are located in mixed use, commercial, residential and office areas. They can be either paved or unpaved. The typical suburban trail users may include pedestrians, bicyclists, equestrians, and in-line skaters. If equestrian usage is planned, a separate unpaved trail should be provided. Suburban trails link recreation areas and open space areas and adjacent community developments, and serve both recreation and transportation needs. Suburban trails are typically used in the following areas: All R zones.

Rural Trails

Rural Trails have a moderate to low intensity usage and are located in residential, agricultural, and natural environments. They are typically unpaved, and should have convenient access to public roads. Typical rural trail users would include pedestrians, bicyclists, and equestrian users. Rural trails link recreation areas, open space areas, and communities, and serve both recreation and transportation needs. Rural Trails are typically used in the following areas: All RU zones.

Remote Trails

Remote Trails have a moderate to low intensity usage and are located in undisturbed natural environments. They are unpaved, and provide a route of travel between landmarks or viewpoints, and provide limited access to protected open space areas. The typical remote trail users would include pedestrians, bicyclists, and equestrians. Remote trails link recreation areas and open space areas, and serve recreation needs. Remote trails are typically used in the following areas: Regional Parks, conservation open space and some RU zones.

5.2 Design Guidelines

The pedestrian circulation system should efficiently connect all open space and recreation areas in the proposed development in a manner that meets the objectives of the OSRP plan.

Trails need to be easily accessible to the public for the trails to receive high use.

Trail design should be incorporated into plans for natural drainage channels, street rights-of-way, landscape corridors, utility rights-of-way, levees, and other open spaces.

The trail systems should offer loops, allowing the individual to avoid backtracking. The multi-use path or trail system should provide linkages to open space, recreation areas, trails, paths, bikeways, schools and commercial parcels within the proposed development as well as to adjacent neighborhoods and communities, and the County's trail system, if applicable.

Community access to trails identified in the comprehensive plan should be reserved in the proposed development.

The Juan Bautista de Anza National Historic Trail or the Central Arizona Project (CAP) Trail should have a minimum corridor width of 50 feet. Communities developing in proximity to the Arizona National Scenic Trail should provide, where feasible, a corridor width of ¼ mile.

The minimum tread width should be consistent with the tread width required for the respective trail type identified in Table 3 unless the trail is connecting with an existing trail. In that case the existing trail width should be used unless that trail width is less than 3 feet in width. Tread width should be no less than 3 feet in width.

Trails that are to be constructed as part of the Juan Bautista de Anza National Historic Trail or the Central Arizona Project (CAP) Trail should meet the criteria for remote trails, except for tread surface. The tread surface for these two trails will be determined during the OSRP process and could be paved or unpaved.

Regional trails as shown on the comprehensive plan may be rerouted with the approval of the County Board of Supervisors.

Trails should be located in scenic locations and provide access to viewpoints when possible, but not within or immediately adjacent to sensitive vegetation or significant wildlife habitat.

Areas disturbed by trail development should be revegetated, as appropriate, to provide continuity with the surrounding natural vegetation.

Trail development should be constructed in a manner that minimizes cut and fill slopes adjacent to the trail.

Motorized trails should not be used unless they are part of the regional trail system as shown on the comprehensive plan.

Incompatible uses should be separated from each other to minimize user conflicts and to provide for a safe environment for both.

All trails and trailheads should provide clearly illustrated and properly located signage with informational, interpretive, and regulatory messages.

Multi-use paths, urban and suburban trails and trailheads should comply with ADA requirements where possible in trail design as well as in the design of restrooms, picnic benches, and trailhead parking areas.

Trailheads for community use should be provided when connecting to a regional trail. The size and number of parking spaces should be commensurate to the size of the development.

Trailheads and trailside rest areas should incorporate picnic tables, benches and landscaping.

Shared parking for a community trailhead or staging area may be provided at an adjacent recreation area if it is located within 1000 feet of a trail access point. A trail connection will need to be provided between the shared parking and the trail access point or trailhead.

Provide community trailheads and staging areas that include parking and signage at appropriate locations. Depending on the size and other characteristics of the trail system, more than one sign may be necessary to address the entire trail system. The signage will typically contain a map of the trail system, as well as trail use guidelines, information about user groups, emergency information, and other information helpful to a user.

Trailheads should be identifiable and distinct and should offer directional signage that indicates types of trails, associated uses, and any safety considerations for the safe travel of the particular users. Examples of amenities that should accompany all trailheads are as follows:

- Parking
- Signage
- ADA accessibility if required
- Potable Water (if available at site)
- Shade

5.3 Trail Section Definitions

This section identifies and defines the Trail Standard Recommendations found in Table 3, Pinal County Path and Trail Recommendations.

Corridor Width

Corridor width is the minimum width recommended for a specified trail corridor. The minimum width is calculated by adding the appropriate landscape buffer on either side of the horizontal clearance. For instance, the corridor width of a suburban non-motorized multi-use path and trail would be a minimum corridor width of 30 feet, have a minimum tread width of 10 feet and a minimum landscape buffer of 10 feet.

Paved/Unpaved

Paved/unpaved designates whether the trail should be paved (i.e., concrete or asphalt), or unpaved (i.e. decomposed granite or natural surface).

Tread Width

Tread width is the width of the portion of the trail used for travel.

Horizontal Clearance

Horizontal clearance is the minimum recommended width of the trail that is free from protruding objects or obstruction.

Vertical Clearance

Vertical clearance is the minimum recommended height above the trail that is free from protruding objects and obstructions.

Separation Buffer

Separation buffer is the minimum recommended distance that separates trail types within a corridor. The minimum distance should always be the greater of the two distances. For example, when an OHV trail, with a 25-foot buffer, and a multi-use path and trail, with a 5' buffer, are identified within the same corridor, the greater of the two separation buffers should be used—25 feet.

Development Setback

Development setback is the minimum recommended distance the trail should be placed from a built feature (e.g., building).

Landscape Buffer

Landscape buffer is the minimum recommended distance of natural, landscaped, or open space area used between the trail and adjacent lands to minimize both physical and visual impacts.

Wash/Riparian Buffer

Wash/riparian buffer is the minimum recommended distance of natural, landscaped, or open space area used between the trail and the top of slope of the defined drainage channel.

Grade

Grade is the longitudinal slope of the trail alignment.

Table 3. Pinal County Path and Trail Recommendations

Trail Setting	Urban					Suburban					Rural					Remote						
	TRAIL TYPE	Multi-Use/ Non-Motorized	Bike Path	Walking/ Hiking	Equestrian	OHV Trail ³	Multi-Use/ Non-Motorized	Bike Path	Walking/ Hiking	Equestrian	OHV Trail ³	Multi-Use/ Non-Motorized	Bike Path	Walking/ Hiking	Equestrian	OHV Trail ³	Multi-Use/ Non-Motorized	Bike Path	Walking/ Hiking	Equestrian	OHV Trail ³	
Trail Standard Criteria																						
Corridor Width (Min.)	24'	24'	15'	15'	N/A	30'	30'	25'	29'	N/A	24'	21'	19'	21'	24'	50'	50'	50'	50'	50'	50'	
Paved/ Unpaved	P/U	P/U	P/U	U	N/A	P/U	P/U	P/U	U	N/A	P/U	P/U	P/U	U	U	U	U	U	U	U	U	
Tread Width (Min.)	8'-10'	8'	5'-8'	5'-8'	N/A	8'-10'	8'	5'-8'	5'-8'	N/A	5'-8'	5'	5'	5'	8'	5'	3'	3'	3'	3'	5'	
Horizontal Clearance (Min. tread+shoulder)	14'	14'	9'	9'	N/A	14'	14'	9'	9'	N/A	14'	11'	9'	11'	14'	11'	9'	7'	9'	9'	11'	
Vertical Clearance (Min.)	12"	8"	8"	12'	N/A	12"	8"	8"	12'	N/A	12"	8"	8"	12'	12'	12"	8"	8"	12'	12'	12'	
Separation Between Uses (Min.) ¹	5'	5'	5'	8'	N/A	5'	5'	5'	8'	N/A	5'	5'	5'	12'	25'	5'	5'	5'	12'	12'	500'	
Development Setback (Min.)	5'	5'	5'	5'	N/A	15'	15'	15'	15'	N/A	30'	30'	30'	30'	500'	100'	100'	100'	100'	100'	500'	
Landscape Buffer (Min. each side)	5'	5'	5'	5'	N/A	8'	8'	8'	10'	N/A	5'	5'	5'	5'	5'	N/A	N/A	N/A	N/A	N/A	N/A	
Buffer from Wash\ Riparian Corridor (Min.) ²	10'	10'	10'	25'	N/A	10'	10'	10'	25'	N/A	10'	10'	10'	25'	25'	25'	25'	25'	25'	25'	50'	
Grade Paved (Max.)	<5%	<5%	<5%	<5%	N/A	<5%	<5%	<5%	<5%	N/A	<10%	<10%	<10%	<10%	<10%	<15%	<15%	<15%	<15%	<15%	<15%	
Grade Unpaved (Max. Sustained) ⁴	<5%	<5%	<5%	<5%	N/A	<5%	<5%	<5%	<5%	N/A	<10%	<10%	<10%	<10%	<10%	<15%	<15%	<15%	<15%	<15%	<15%	

¹ When combining two uses always use largest buffer required. For example, when combining a suburban multi-use non-motorized trail with an equestrian trail, an 8' separation should be used.

² Buffer starts at the edge of the 100-year floodplain

³ OHV trail is an unpaved trail for unlicensed or licensed vehicles. Licensed OHV Route to be included in roadway section.

⁴ Grades can have short segments that reach up to 50% depending on skill level of trail and site applicability.

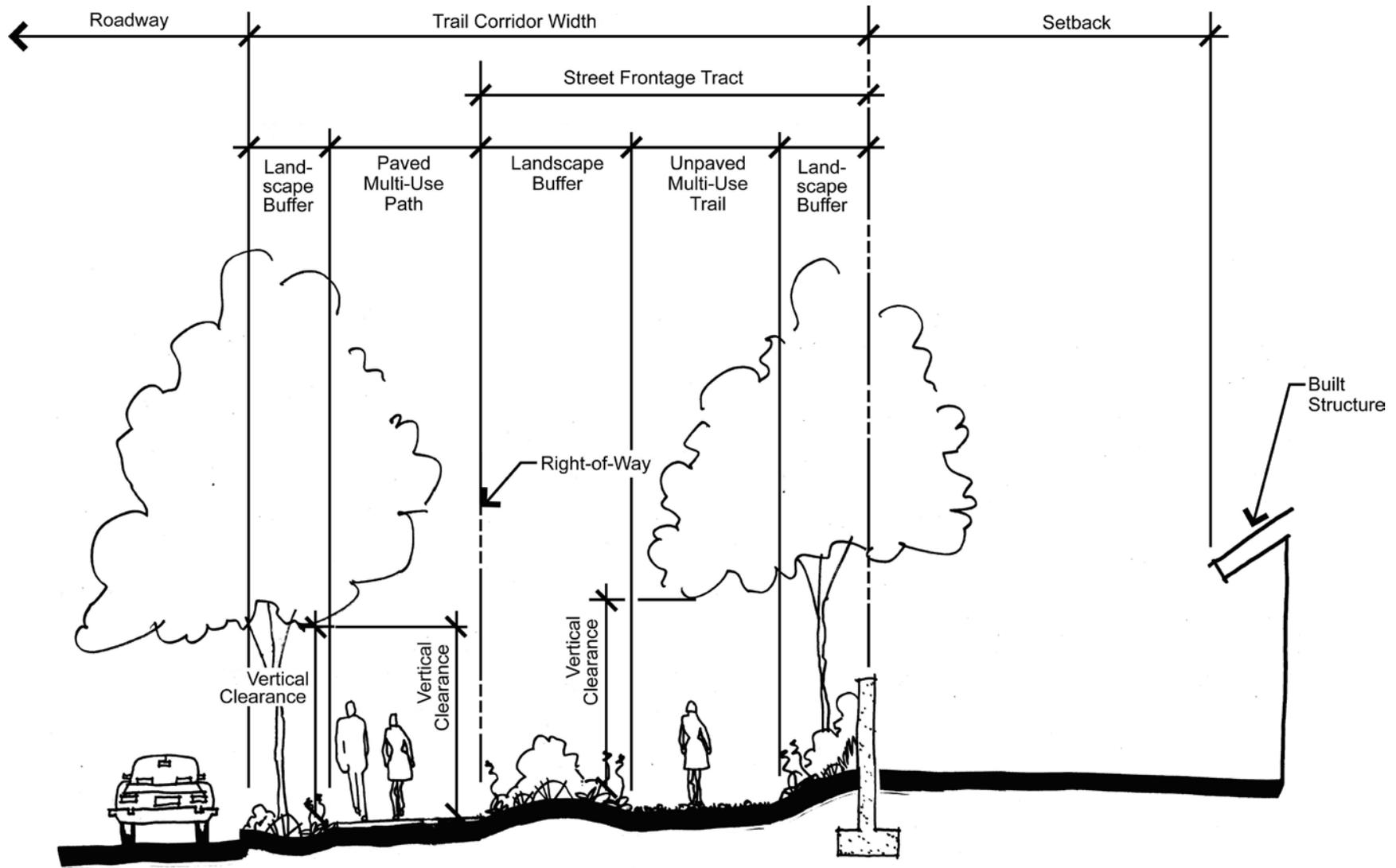


Figure 4. Prototypical Separated Urban/ Suburban/ Rural Multi-Use Path Corridor

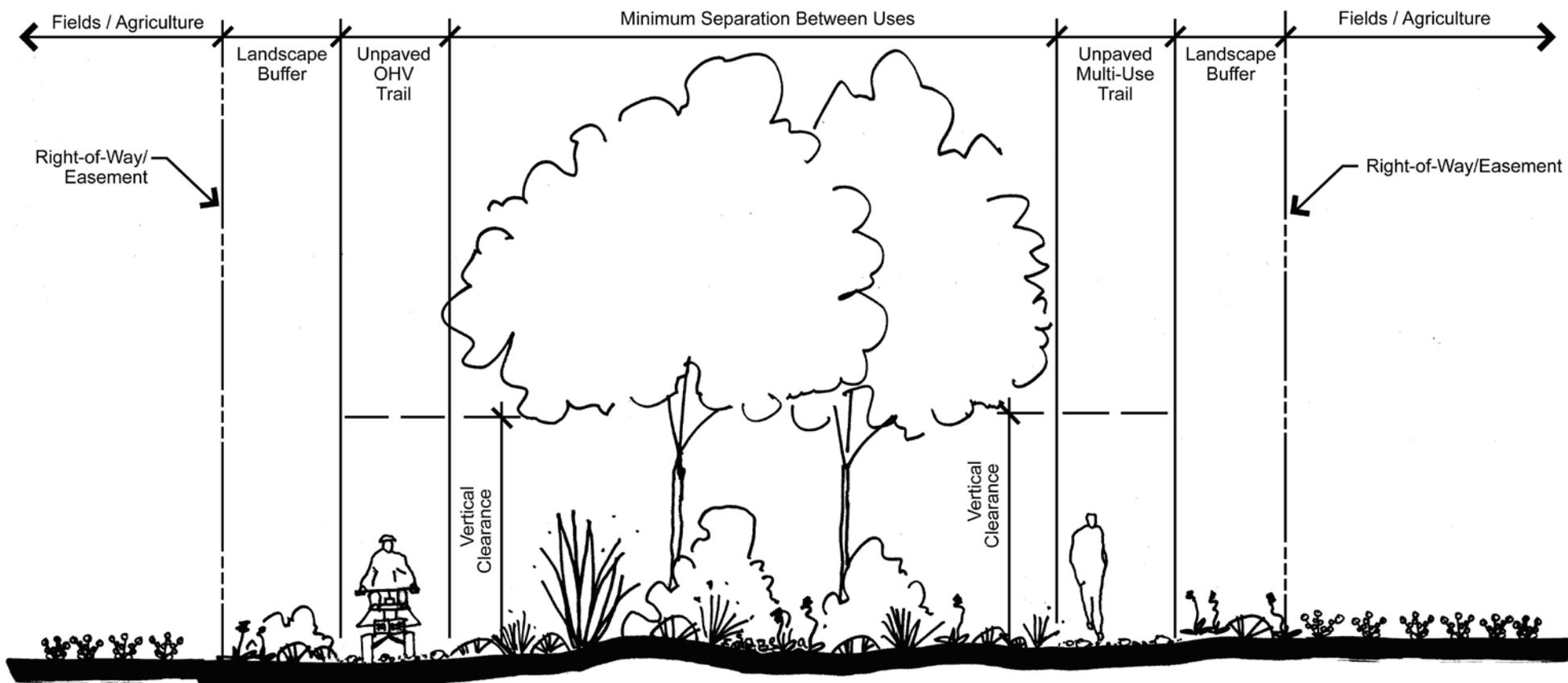


Figure 5. Prototypical Separated Rural Multi-Use Trail Corridor

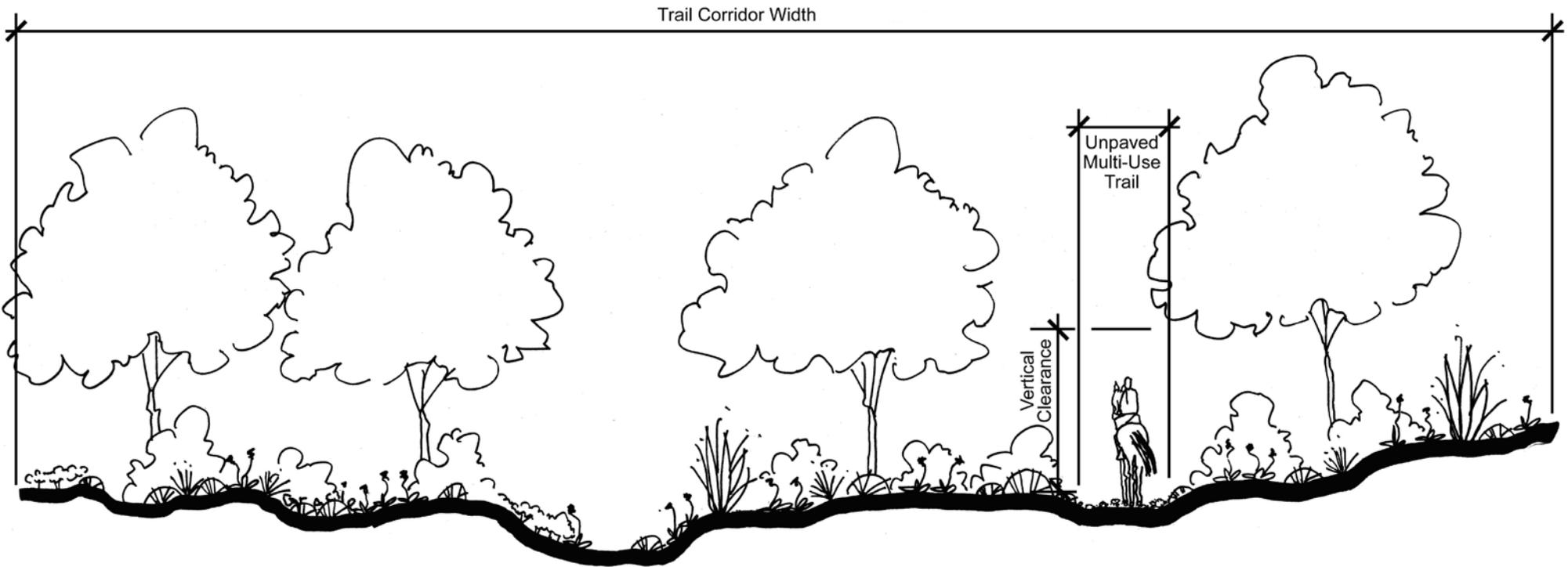


Figure 6. Prototypical Remote Multi-Use Trail Corridor

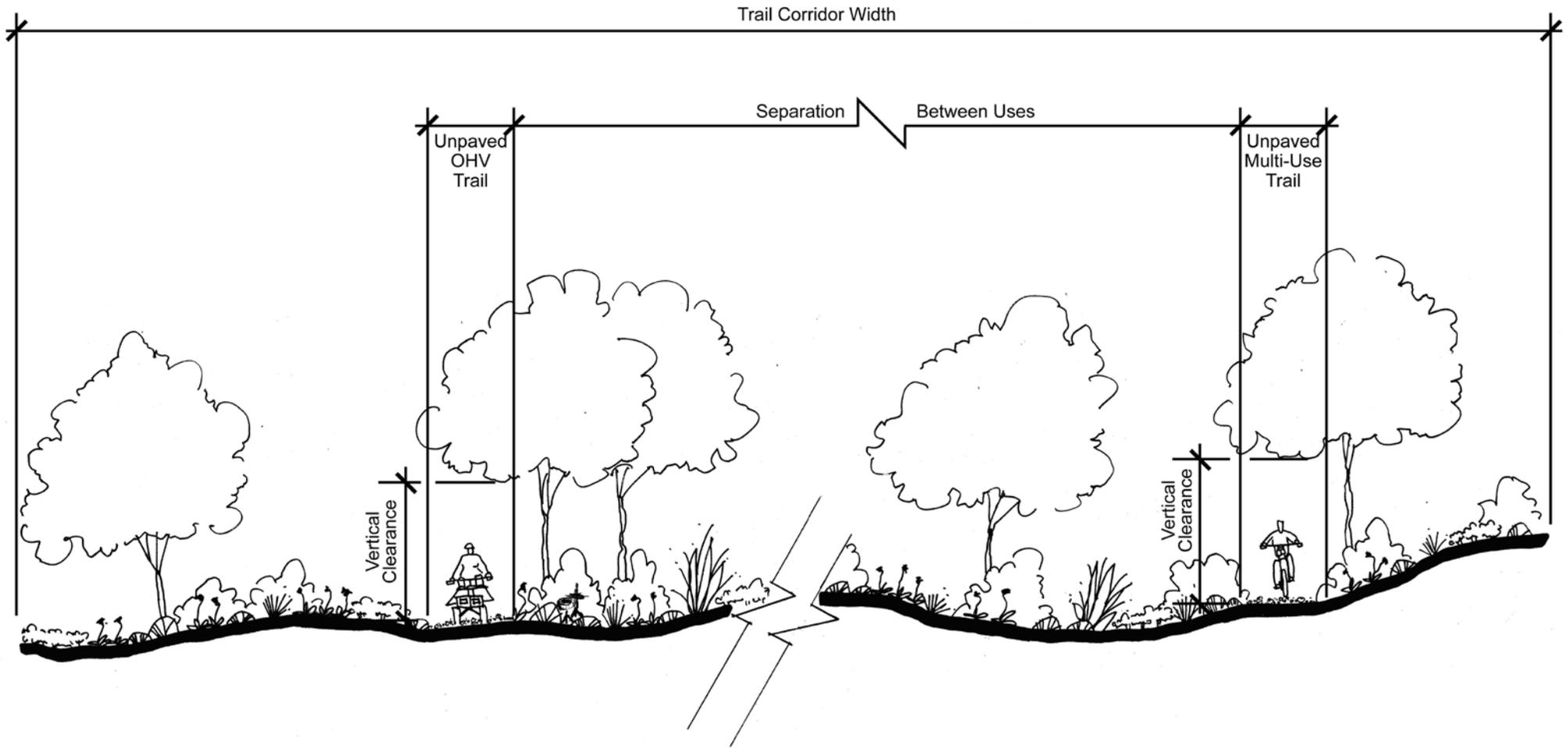


Figure 7. Prototypical Separated Remote Multi-Use/ OHV Trail Corridor

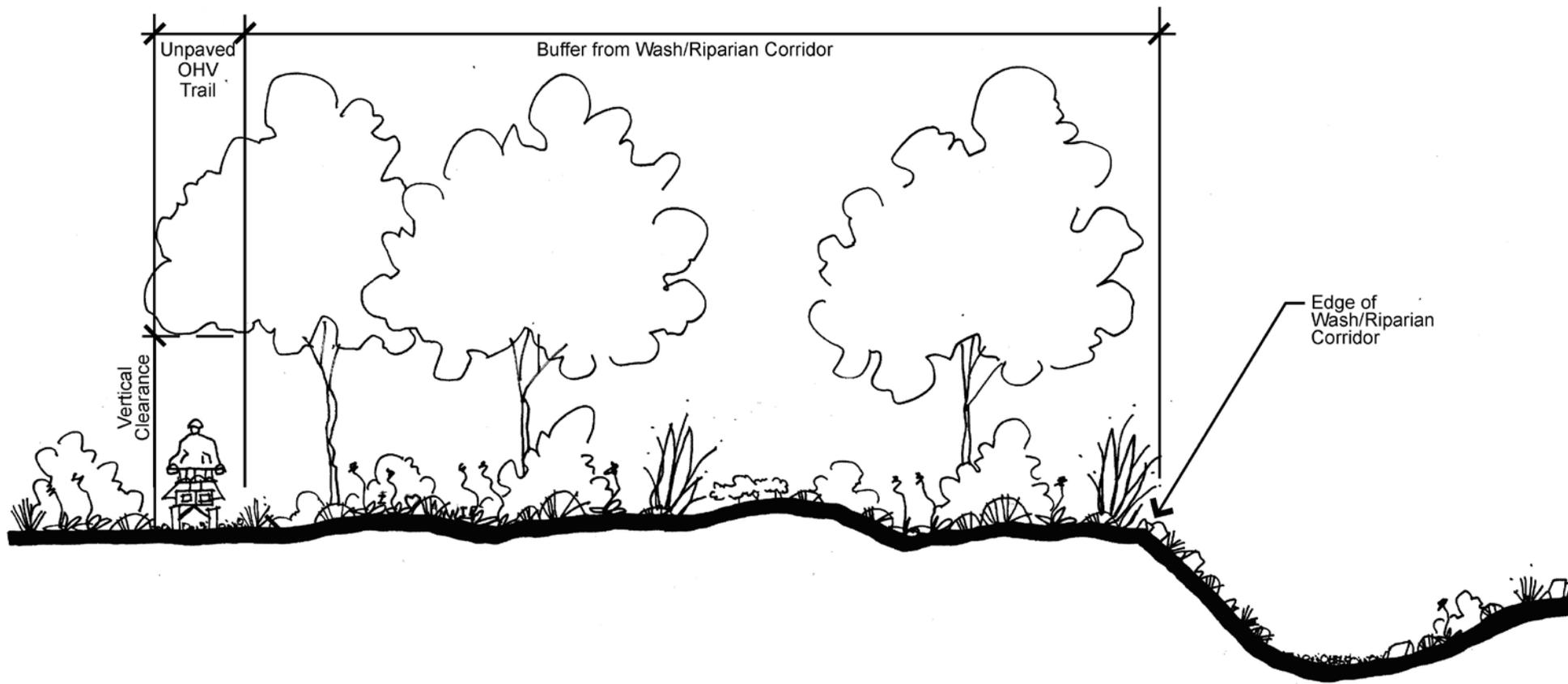


Figure 8. Prototypical Remote OHV Trail

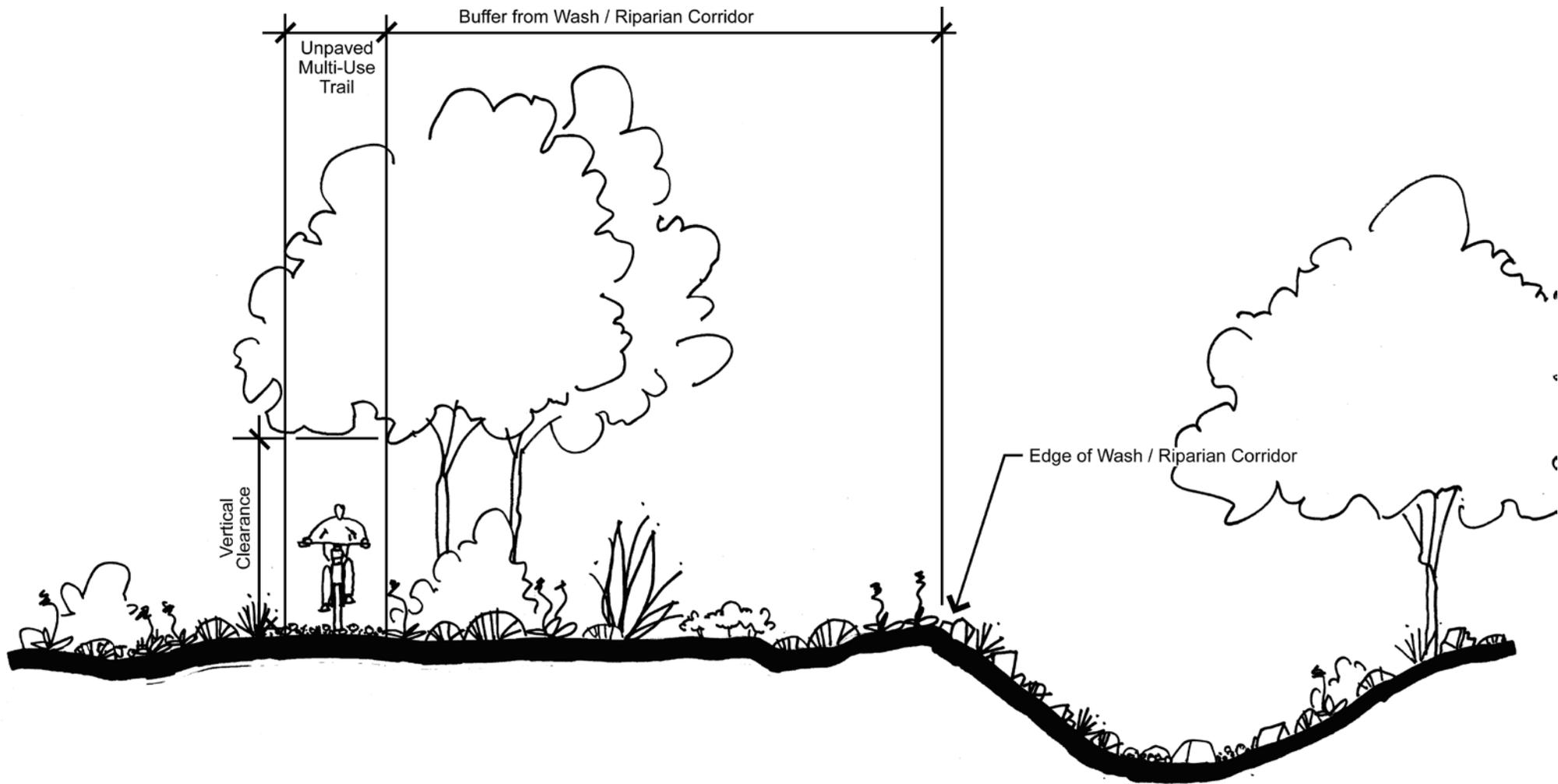


Figure 9. Prototypical Clearance from Remote Multi-Use Trail to Wash

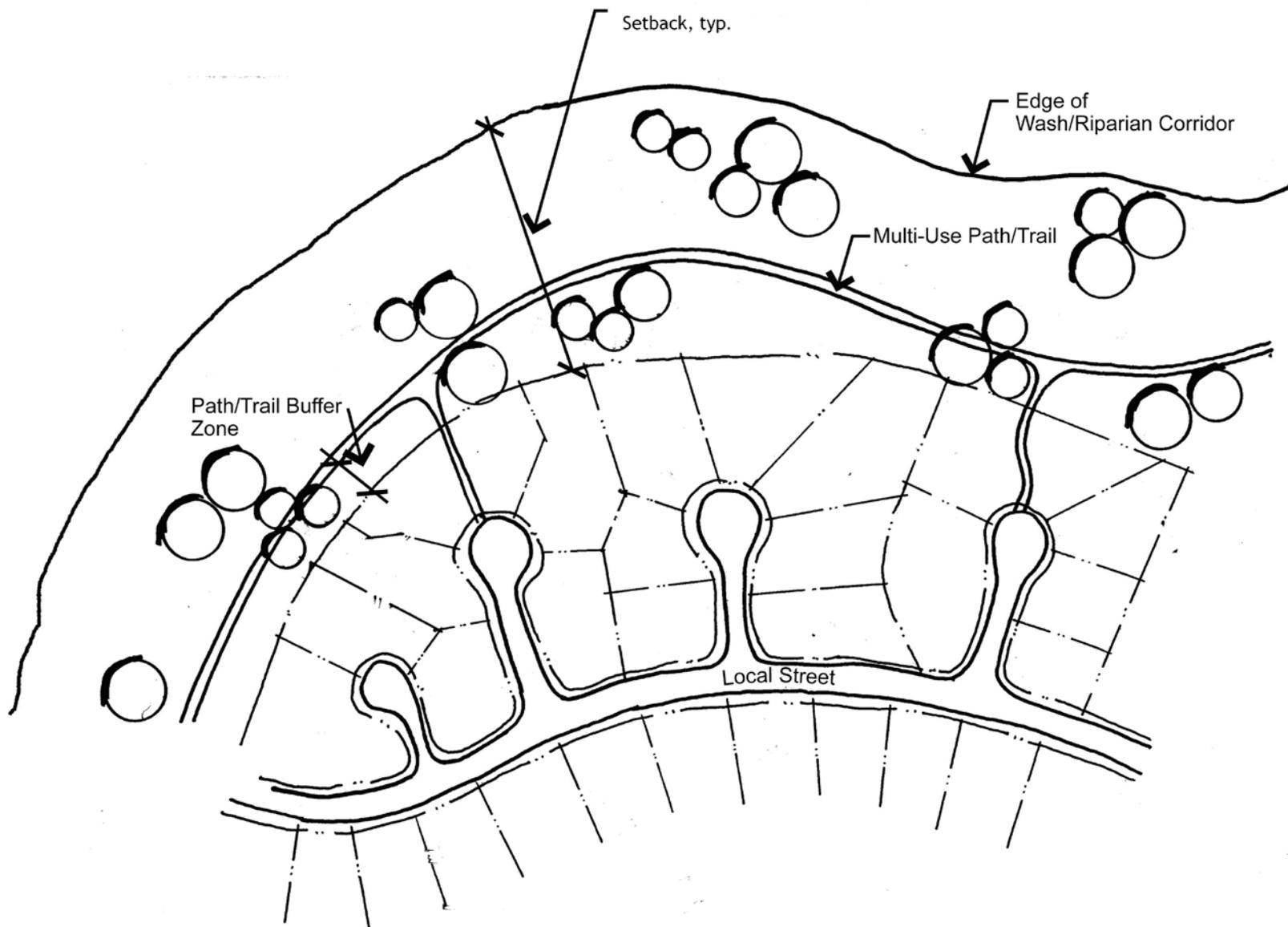


Figure 10. Prototypical Open Space and Multi-Use Path and Trail Setback