

Parks and Recreation

Park Development Policies and Design Standards

Creating Community Through People, Parks and Programs



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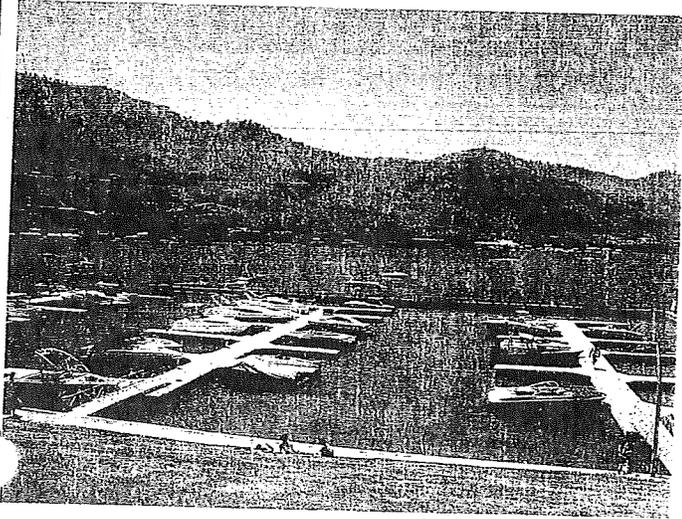
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Chapter 1:

INTRODUCTION

1.0 Introduction

The City of Chelan is committed to providing a quality public park system that will meet the anticipated needs and demands of residents and visitors to the community. The purpose of the Park Development Policies and Design Standards is to establish guidance for acceptance of park land and criteria for design of public and private parks.

1.1 Intent

The City of Chelan Park Development Policies and Design Standards Manual was developed by the Parks and Recreation Department as a companion to the City of Chelan Parks and Recreation Comprehensive Plan. This reference manual consolidates policies, procedures, guidelines, and standards for public and private parks, trails, public facilities, and related recreational amenities into a single document. The intent of this manual is to provide guidance to all parties involved with park design and/or public facilities development.



Chapter 2:

PARK DEVELOPMENT STANDARDS

2.0 INTRODUCTION

The City of Chelan Parks and Recreation Department is dedicated to providing and preserving the highest quality, diverse parks and recreation facilities for all Chelan residents and visitors. The City designates parks into classifications as defined in the City of Chelan Parks and Recreation Comprehensive Plan. This section contains design policies for each park classification type.

2.1 Mini Park

- 2.1.1 This type of park should not be developed, unless no other option exists for a larger park within the given service area.
- 2.1.2 There is no minimum size requirement for mini-parks.
- 2.1.3 Appropriate facilities include: Play area with play equipment such as a climber, slide or swings; a viewpoint; or waterfront access areas. A small urban plaza, streetscape, interpretive site, garden, historic monument, beautification or civic recognition project may also be considered within Mini Park.
- 2.1.4 Site location: Accessibility is very important, usually by way of Primary or Secondary Trails or sidewalks along residential streets. The site should be central to the area it serves and be relatively level. Walking distance should not exceed one-quarter mile and not require crossing of busy streets.
- 2.1.5 Parking and restrooms. Parking and restrooms are not provided at Mini Parks.
- 2.1.6 Lighting. Site lighting may be used for security and safety.
- 2.1.7 Trees will be pruned up six feet and the landscape will not create places of concealment. The park will be visually accessible from the street.

2.2 Neighborhood Park

- 2.2.1 Development of Neighborhood Parks should be aimed to achieve a balance between active and passive park uses. For this reason, neighborhood parks should be located on a site that has some natural aesthetic appeal and is predominately flat.

- 2.2.2 Active recreational facilities in neighborhood parks are intended to be used in an informal and unstructured manner. Appropriate facilities include: Multi-use open fields for youth soccer and baseball, opportunities for non-supervised, non-organized recreation activities such as basketball and tennis, facilities for picnicking, children's play areas, trails, and viewpoints.
- 2.2.3 Restroom facilities are not provided.
- 2.2.4 Ease of access and walking distance are critical factors in locating a Neighborhood Park. Accessibility is usually by way of sidewalks along residential streets or neighborhood trails. The park design should encourage access by foot or bicycle and provide bicycle racks at each primary access point.
- 2.2.5 Parking requirements: If less than 300 lineal feet of street frontage exists, a minimum of 3 spaces per acre of usable active park areas should be provided with a proportionate number of ADA van accessible parking stall (s).

2.3 Community Park

- 2.3.1 Community Parks should be serviced by arterial or collector streets and be accessible.
- 2.3.2 At least 2/3 of the site should be available for active recreation use.
- 2.3.3 Appropriate facilities include: Formal sports fields – softball, baseball, soccer, tennis courts, sand or grass volleyball courts, open grass areas, restrooms, picnic facilities, trails, basketball courts, children's play areas and space for special outdoor events.
- 2.3.4 Parking requirements depend upon facilities provided. Generally provide 5 spaces per acre of active use area plus proportionate number of ADA van accessible spaces.

2.4 Regional Parks

- 2.4.1 Parking to serve 100-300 vehicles typical. Gates located at parking lot entrances.
- 2.4.2 Typical development includes: Large play area, sports complexes, basketball courts, trails, picnic areas, golf course, tennis courts, pavilions, senior center, recreation center, restrooms.

- 2.4.3** Should be located near major circulation routes including access to public transportation.

2.5 Trail Systems

Trails, are designed to provide walking, bicycling and other non-motorized recreational opportunities. By providing linkages to other areas and facilities, they also allow non-vehicular options for travel throughout the community. Trails can be designed for single or multiple types of users. This section provides design policies for the different trail classifications.

2.5.1 Primary Trail

- 2.5.1.a. A primary trail is paved and has a minimum improved surface width of 10 feet with a one foot clear area on each side of paved surface.
- 2.5.1.b Primary trails should have limited road crossings, which disrupt the flow and continuity of the trail. For this reason primary trails are often built in greenways or along utility easements. Road crossings will be identified as applicable depending upon the road and trail type.
- 2.5.1.c Trail alignments should take into consideration ADA accessibility requirements wherever possible. Maximum gradients on accessible routs should not exceed a longitudinal slope of 5% and a cross slope of 2%.

2.5.2 Secondary Trail

- 2.5.2.a A secondary trail has a minimum paved width of 8 feet with an additional one foot clear area on each side. It may not be accessible along its entire length (accessibility is desirable, even if limited to trail segments).
- 2.5.2.b Secondary trails may include segments located on residential streets or sidewalks when separate trail construction is not feasible or necessary.

2.6 Pathways

Pathways are similar to trails and are designed to provide walking, bicycling and non motorized travel. They are typically less formalized than trail or bikeway systems.

2.6.1 Improved Pathways

- 2.6.1.a A path is typically soft surface, with a minimum width of 4 feet. Depending on use, location, and underlying conditions, the surface material may be native soil, wood chips or crushed rock.

2.6.2 Unimproved Pathways

- 2.6.2.a Unimproved path surfaces usually consist of forest duff or native soil.

2.6.3 Equestrian Pathway

- 2.6.3.a 6 feet wide, soft surface trail consisting of native soil material.
- 2.6.3.b Crushed rock surfacing is used in areas of soft or erodable soils.
- 2.6.3.c Pathways shoulders should be cleared a minimum 3 feet on both sides and vertical clearance should be 10 feet within the trail and shoulder zone.
- 2.6.3.d Equestrian pathways should be designated for use by signs and separated from other trails to reduce potential conflicts with other user groups. Equestrian trails and other types of trails may parallel each other but should be physically and visually separated by vegetation, a fence, or a combination of the two.
- 2.6.3.e Equestrian pathways should have linkages to other equestrian trails or equestrian facilities such as horse rings, stables and parks with equestrian facilities.
- 2.6.3.f Equestrian trailheads should have parking for vehicles with horse trailers, signs, hitching posts, water, and manure disposal areas and cleanup tools.

2.7 Bikeway Systems

Bikeways are different than park or greenway trails in that their principal focus is on safe and efficient transportation. Typical bikeway user groups would include bicycle commuters, fitness enthusiasts, and competitive athletes. Their emphasis is on speed, which can be a serious conflict with recreation-type trails and their user groups. For this reason, it is important in planning trails and bikeways that trails not be substitutes for bikeways (and vice-versa). If such dual uses cannot be avoided, it is important that the trail or bikeway be designed with more flexibility, such as for higher speeds, including passing zones and greater widths. Bikeway route systems and standards follow these classifications:

2.7.1 Class I Bikeways

2.7.1.a The minimum paved width is 10 feet, with one foot cleared shoulders on both sides. Generally, a Class I Bikeway has two-way traffic separated by a centerline.

2.7.2 Class II Bikeways

2.7.2.a 12 feet is the minimum width where parallel roadway parking is also permitted. Where parking volume is high, the combined bike lane/parking width should have an additional 2 feet. Without parking along the rights-of-way, the minimum bicycle lane width is 5 feet including a normal gutter width of 2 feet.

2.7.2.b Class II Bikeways are one-way lanes located on each shoulder of a public street improvement.

2.7.3 Class III Bikeways

2.7.3.a The development and maintenance of 4-foot paved roadway shoulders with a standard edge stripe is recommended to significantly improve the safety and convenience for bicyclists and motorists along such routes.

2.8 Recreation Facilities

Recreation Facilities are designed to accommodate both structured and unstructured play and organized teams or leagues.

- 2.8.1** The location and development of Recreation Facilities will be determined on a case by case basis and will be dependent upon Level of Service and proximity to other similar facilities.

2.9 Park Land Dedication

Land proposed to be dedicated for park purposes shall be shown on the preliminary plat map. Land that shall be conveyed in fee simple to the City of Covington shall be free and clear of all encumbrances, except those which will not interfere with the use of the land for its intended purposes as defined in the City's Comprehensive Parks Plan and which the City of Covington agrees to accept. It is preferred that dedications occur on the final plat.

2.9.1 Private Park Dedication

Private park dedications shall be evaluated on a case-by-case basis. If several areas are proposed for park dedication credit, they should be physically linked together to form a network of recreational opportunities; however each individual area should be at least 0.33 (one-third) usable contiguous acre and shall be evaluated for a minimum of 100 feet wide or special design considerations. Subdivisions which include land required as a private park shall be required to submit a written instrument reserving such required park land in perpetuity prior to the issuance of building permits to be approved by the Planning Department.

Private recreation facilities, either required or provided at the option of the applicant, shall meet the standards for site improvements contained herein. When choosing improvements for a recreational area, the anticipated characteristics and needs of the residents shall be considered in conjunction with the size of the development, any physical constraints posed by the site, and the availability of other improvements within the same general area as the subdivision. As an example, the existence of a multi-purpose court in an adjacent, existing subdivision and the availability of the facility for use by residents of the proposed subdivision may indicate to the applicant that another facility, such as a tennis court, would be more appropriate.

Conditions of approval for private park dedications for subdivisions and/or residential development projects may be applied on a case-by-case basis depending upon the specifics of the application.

2.9.2 Dedication Requirements

The following explains the provisions for the dedication of property for park purposes.

On-site recreation - space required.

- A. Residential developments of more than four units, stand-alone townhouse developments if more than four units, and mixed-use developments, if more than four units, shall provide play, sport and recreation space for leisure meeting or exceeding Americans with Disabilities Standards, as follows:
1. Residential subdivision, townhouses developed at a density of eight units or less per acre - 450 square feet per unit;
 2. Manufactured Home Park - 260 feet per unit; and
 3. Apartment, townhouses developed at a density of greater than eight units per acre, and mixed use:
 - a. Studio and one bedroom - 200 square feet per unit;
 - b. Two bedrooms - 350 square feet per unit; and
 - c. Three or more bedrooms - 400 square feet per unit.
 4. Senior housing or other age restricted facilities – 200 square feet per unit or as required by the funding agency, whichever is greater.
- B. Recreation space shall be placed in a designated recreation space tract if part of a subdivision. The tract shall be dedicated to a homeowner's association or other workable organization acceptable to the director, to provide continued maintenance of the recreation space tract.
- C. Any recreation space located outdoors shall:
1. Be of a grade and surface suitable for the designated recreation activity;
 2. Be on the site of the proposed development;

3. Be located in an area where the topography, soils, hydrology and other physical characteristics are of such quality as to create a flat, dry, obstacle-free space in a configuration which allows for passive and active recreation;
 4. Be centrally located with good visibility of the site from roads and sidewalks;
 5. Have no dimensions less than 20 feet, (except trail segments);
 6. Be located in one designated area, unless the director determines that residents of large subdivisions, townhouses and apartment developments would be better served by multiple areas developed with recreation or play facilities;
 7. In single detached or townhouse subdivisions, if the required outdoor recreation space exceeds five thousand square feet (5000), shall have a street roadway or parking area frontage along ten percent or more of the recreation space perimeter, except trail segments, if the outdoor recreation space is located in a single detached or townhouse subdivision
 8. Be ADA accessible and convenient to all residents within the development; and
 9. Be located adjacent to, and be accessible by, trail or walkway to any existing or planned municipal, PUD, county or regional park, public open space or trail system, which may be located on adjoining property.
 10. Lighting shall be provided for safe use of any recreational facility as determined by the city. Such lighting shall be maintained by the responsible party.
- D. Indoor recreation areas may be credited towards the total recreation space requirement, if the director determines that the areas are located, designed, and improved in a manner that provides recreational opportunities equivalent to those recreational opportunities available outdoors. For senior citizen assisted housing, indoor recreation areas need not be functionally equivalent but may include social areas, game and craft rooms, and other multi-purpose entertainment and education areas.

- E. Play equipment or age appropriate facilities shall be provided within dedicated recreation space areas according to the following requirements:
1. For developments of five dwelling units or more, a tot lot or children's play area, which includes age appropriate play equipment, signing and benches, shall be provided;
- B. Play area (tot-lot) designs shall:
1. Provide at least forty five square feet per dwelling unit, with a minimum size of nine hundred square feet;
 2. Be adjacent to main pedestrian paths or near building entrances;
 3. Approved by the Department
 4. Meet the requirements of Chelan Municipal Code; and
 5. Provide play equipment that meets, at a minimum, ASTM 1487 and Consumer Product Safety Standards for equipment, soft surfacing spacing and comply with all applicable ADA accessibility standards.
2. For developments of five to twenty-five dwelling units, one of the following recreation facilities shall be provided in addition to the tot lot or children's play area:
- a. playground equipment;
 - b. sport court;
 - c. sport field;
 - d. tennis court; or
 - e. any other recreation facility proposed by the applicant and approved by the director.
3. For developments of twenty-six to fifty dwelling units, at least two or more of the recreation facilities listed in subsection E.2 of this section shall be provided in addition to the tot lot or children's play area;
4. For developments of more than fifty dwelling units, one or more of the recreation facilities listed in subsection E.2 of this section shall also be provided for every twenty-five dwelling units in addition to the tot lot or children's play area. If calculations

result in a fraction, the fraction shall be rounded to the nearest whole number as follows:

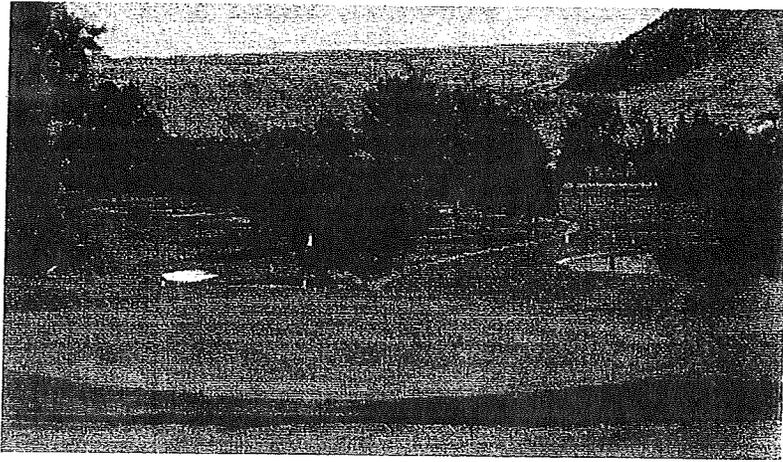
- a. Fractions of 0.50 or above shall be rounded up; and
 - b. Fractions below 0.50 shall be rounded down.
- F. A recreation space plan shall be submitted to the department and reviewed and approved with engineering plans.
1. The recreation space plans shall address all portions of the site that will be used to meet recreation space requirements of this section. The plans shall show dimensions, finished grade, equipment, landscaping, irrigation, lighting and other improvements, as required by the director, to demonstrate that the requirements of the on-site recreation space have been met.

**On-site recreation –
Financial guarantees for construction**

Financial guarantees for construction of recreation facilities shall be provided.

**On-site recreation –
Maintenance of recreation space or dedication**

- A. Unless the recreation space is dedicated to the City, maintenance of any recreation space retained in private ownership shall be the responsibility of the owner or other separate entity capable of long-term maintenance and operation in a manner acceptable to the City.



Chapter 3:

PARK DESIGN GUIDELINES AND STANDARDS

3.0 Introduction

The design standards and guidelines in this manual have been developed with the assistance of community members, and experts in the fields of park planning, facilities management, building and safety and landscape architecture. It is the intention of the Parks and Recreation Advisory Board that these standards/guidelines will be incorporated into the design and construction of all public community and neighborhood parks and facilities and when feasible within private parks and facilities. Departure from these standards will require approval from the Director of Parks, Recreation and Recreation or designee. Further, the City of Chelan is committed in a continuing effort to develop the very best universal accessibility standards and guidelines with regulations established through the Americans with Disabilities Act (ADA)/Department of Justice.

3.1 Signs

- 3.1.1 Directional signs indicating the distance to the nearest accessible path of travel should be placed at all park pedestrian entrances and at handicapped parking areas. All directional signs must be accompanied by the International Symbol of Accessibility
- 3.1.2 All permanent directional or informational signs, when suspended or projected 80" or more above the ground along the path of travel, must have the title in upper case letters at least 3" high.
- 3.1.3 Signs identifying permanent use of rooms and spaces shall have 1/32" raised letters 5/8" to 2" high, sans serif uppercase, and Grade II Braille, mounted on the latch side of any doors at 60" above the floor. These signs must be approachable to within 3" without obstruction.
- 3.1.4 Public Park name signs and rules signs will be to City Standard as found in the Illustration Section.
- 3.1.5 Pictograms are recommended in addition to text, but must be accompanied by the equivalent verbal description placed below in raised letters and Grade II Braille when used in a permanently signed room or space. Pictograms should have 6" borders. The International Symbol of Accessibility and circles and triangles are not considered pictograms.
- 3.1.6 All signs must have a non-glare finish and contrasting characters with backgrounds; all signs shall have numbers and letters that are

legible.

- 3.1.7** The International Symbol of Accessibility symbol should only be used to indicate access for individuals with limited mobility, including wheelchair users.
- 3.1.8** The Access to Low Vision pictogram may be used to indicate access for people who are blind or have low vision, including: a guided tour, a path to a nature trail or a scent garden in a park; and a tactile tour or an exhibition that may be touched.
- 3.1.9** The Volume Control pictogram indicates the location of telephones that have handsets with amplified sound and/or adjustable volume controls.
- 3.1.10** The Braille pictogram indicates that printed matter is available in Braille.

3.2 Parking Areas

- 3.2.1** The handicapped parking requirements are established by the State of Washington. In addition to the minimum requirement of the State and City building codes, 50 percent of the required handicapped parking stalls in public parks shall be “van accessible” (“Public Parks Only”). Dimensions for access aisles and spaces must meet or exceed current standards.
- 3.2.2** From any accessible parking space, there must be a connecting 48-inch-wide minimum accessible route. The accessible route must not be obstructed by any objects including vehicles that may extend into the accessible route, a curb, outdoor furniture, or shrubbery.
- 3.2.3** The surface slope of the handicapped parking space and access aisle shall not exceed 2 percent.
- 3.2.4** A curb ramp is required when an accessible walkway is at a different elevation than a parking space. The ramp may not encroach into loading/unloading zones, parking spaces, or vehicular traffic lanes.

3.3 Accessible Path of Travel

- 3.3.1** All park entrances shall be designed to accommodate a continuous accessible path of travel from the street connecting through the

parking area to the park activities. When more than one route of travel is provided, all routes shall be accessible.

- 3.3.2** Accessible paths of travel shall have a maximum cross slope of 2 percent and a maximum running slope of 5 percent or 1:20.
- 3.3.3** An uninterrupted accessible perimeter pedestrian path of travel is desired around the entire circumference of the park. The accessible path of travel must have a firm, stable, non-slip surface with a minimum 5 feet width. Where ramps occur, a maximum slope of 1:20 is preferred, but no less than a standard of 1:12 will be permitted. A 1:20 slope means that a change in vertical height of no more than one foot can occur for every twenty feet of distance.
- 3.3.4** The design of the park shall include a network of handicapped accessible paths of travel providing connections to all passive and active park areas. An accessible path of travel shall be provided to each major park amenity, including but not limited to each athletic field or court, playground, picnic area, and public pool.
- 3.3.5** Steps or abrupt changes in level shall not interrupt accessible paths.
- 3.3.6** Accessible paths of travel must have all weather surfaces.
- 3.3.7** Concrete pavers used for accessible paths of travel shall provide a smooth surface and shall be pre-approved by the Director of Parks and Recreation or designee. Textured concrete or cobble stone may be acceptable as an accent feature outside of the path of travel.
- 3.3.8** There shall be no encroachment into the accessible path of travel.
- 3.3.9** Clearance shall be provided when potentially dangerous elements, such as tree wells, power poles, CATV boxes, telecommunication antennas, equipment buildings, landscaping, or public art are located adjacent to the accessible path of travel.
- 3.3.10** Abrupt changes in level in close proximity to the accessible path of travel, except between a walk or a sidewalk and an adjacent street or driveway, exceeding 3 inches in vertical height shall require edge protection. Protection can be: Handrails or guardrails, 3 feet high; Guardrail height shall be 42 inches if vertical height exceeds 30 inches; Warning curb, minimum 6 inches high; Flush mounted grate or cover protection.

- 3.3.11 When the path of travel is incorporated into a wider walkway, edge protection is not necessary if the obstruction will not encroach within the accessible path of travel.
- 3.3.12 .Accessible path of travel through berms should be considered where the berms are over 100 feet long, and a cut through would enhance equal access to fields and courts (“Public Parks Only”).
- 3.3.13 Accessible paths of travel should be located near trees for shade when possible.

3.4 Fences and Gates

- 3.4.1 All fences and gates when not installed over pavement, will have a 8 inch wide concrete mow strip unless part of a proposed concrete slab or otherwise approved by the Director of Parks, and Recreation.
- 3.4.2 Fence and gate information for specific park and recreation facilities may be found in the applicable section.
- 3.4.3 Gates or fence openings shall have a minimum thirty-six (36) inch clearance.
- 3.4.4 All fencing shall have easy swinging gates with accessible latches, hardware and switches.
- 3.4.5 All chain link fence, posts and hardware shall be black vinyl coated at a gauge specified for the appropriate facility.

3.5 Spectator Seating

- 3.5.1 All fields and courts that do not have spectator seating shall have an accessible area on each side of the field that is suitable for viewing the game, without being a safety hazard.
- 3.5.2 All constructed spectator viewing areas such as bleachers, shall have integrated accessible seating with companion seating.
- 3.5.3 A companion seat shall be provided adjacent to each required handicapped wheelchair seating pad. The space shall be marked with a reduced size blue universal sign painted or stenciled on the concrete pad. Park Facility Site Plans shall show the 4 foot by 5

foot area and the blue universal sign painted on the concrete pad.

- 3.5.4** All wheelchair seating must provide a comparable line of sight to other spectator seating. When wheelchair seating is located behind other spectator seating and the spectators are expected to stand during the activity, the wheelchair seating must provide a comparable line of sight over standing spectators. A comparable line of sight allows a person using a wheelchair to see the playing surface between the heads and over the shoulders of the persons standing in the row immediately in front and over the heads of the persons standing in front.

3.6 Site Furniture

- 3.6.1** Picnic Tables. In groupings of four (4) or more tables, 50 percent of all picnic tables shall be accessible and shall meet accessibility height and clearance requirements. When less than four tables are provided at one location, each table shall be accessible. All picnic table pads shall be concrete.
- 3.6.2** Park Benches. 100 percent of all park benches shall be accessible. A minimum of 50 percent of all park benches will have at least one four (4) foot wide by five (5) foot deep concrete pad to accommodate wheelchairs next to the bench outside of the accessible path of travel. The space shall be marked with a reduced size blue universal sign painted on the concrete pad. Parks and Recreation Facility Site Plans shall show the four (4) foot by five (5) foot area and the blue universal sign painted on the concrete pad.
- 3.6.3** Trash Receptacles. Trash receptacles shall be provided for each park element. In the case of picnic tables, in groupings of less than four (4) tables, one (1) receptacle will be provided. One (1) additional receptacle will be provided for each subsequent group of four tables. Each receptacle will be accessible and indicated on the Park and Recreation Facility Site Plan.

3.7 Standards Applicable to All Baseball and Softball Fields

- 3.7.1** All fields, dugouts and spectator areas shall provide access for disabled individuals by way of walkways, ramps, or other acceptable means.
- 3.7.2** Backstops shall be surrounded by a 6 inch high concrete curb or

block wall on the outside of the backstop to keep water from draining onto the field. All concrete surrounding the backstop shall slope 1 percent away from the field.

- 3.7.3** Batting cages are required when more than two lighted ballfields are located on one site. Each batting cage shall have a minimum inside dimension of 70 feet by 15 feet (for Regulation and Pony Baseball Use) or 60 feet by 15 feet (for youth baseball or softball use). The floor shall be a 4-inch thick concrete pad with a centered floor drain. The perimeter fencing shall be 12 feet high chain link fence supported by 2 3/4 galvanized steel posts, maximum 8 feet on center. The chain link shall be 2-inch grid, 6 gauge chain link fabric with knuckled selvage at top and bottom. All chain link shall be covered on the inside with #36 nylon netting, 1 3/4 square inch, latex treated, with poly rope border, or approved equals. The chain link shall be fastened with screen rings 18 inches long on center. Each batting cage shall have two 120V outlets, located at the door end of the cage. Each batting cage shall have its own door with lockable latch.
- 3.7.4** 15 parking spaces will be provided for each field. A proportionate number of ADA van accessible spaces will be provided.
- 3.7.5** Dugouts shall be located along the first and third baselines, behind the backstop wings. They shall consist of concrete pads at field grade that are sloped away from the field, and surrounded by an 8 foot high 6 gauge chain link fence. The top of the dugout shall be a metal roof attached at a 9-foot height to the backstop wing, and at the top of the 8-foot high dugout fence. The dugouts shall be 30 feet long, 10 feet wide, and equipped with a 25 foot long aluminum bench, a bat rack, and a latching gate to the infield.
- 3.7.6** 30 amp electrical outlets shall be placed behind the backstop at home plate (1) and behind both dugouts.
- 3.7.7** The fields will typically be crowned in the center with drainage to the sides. However, if the specific site or field overlay makes this drainage pattern unacceptable, other drainage patterns may be considered. Control boxes and drainage grates shall not be located on playing fields and shall be vandal resistant. All drain pipes coming from drains with exposed grates, will be a minimum of 6-inch diameter. Any turns in the pipe greater than a 45 degree angle will be made with sweep ells. All turf infields and all infields in Community Parks shall have approved sub surface drains designed to remove the water from the site (such as to storm drains).

- 3.7.8.** Field gradients shall vary from site to site. Field gradients will range from 1.00 to 1.25 percent for skinned and turf infields and from 1.25 to 1.50 percent for outfield turf.
- 3.7.9** The preferred field orientation places the back of the home plate facing due north to northeast, and the first baseline running west. However, optimum utilization of the site may require variations from this preferred orientation.
- 3.7.10** Infields and base paths shall be covered with a 6 inch deep composition of 45 percent brick dust, 30 percent clay and 25 percent Turface MVP, unless requested to be a turf infield by City staff.
- 3.7.11** Home plate, bases, and the pitching rubber shall be provided at the time of construction, but shall be installed by the City of Chelan. For ballfields with turf infields, a pitchers mound cover and a home plate cover shall be provided.
- 3.7.12** All infields shall have a manual irrigation watering system that is capable of watering all infield areas. Sufficient number of valves shall be provided depending on the available pressure and the size of the main line at the site. Sprinklers shall be installed along the perimeter of the infield area flush with the surface. The sprinkler heads shall be Hunter 1-42-ADS high speed with brown rubber tops. Valves and valve boxes shall be installed at the end of the dugout fence, on the spectator side of the fence. Valves shall be 1 1/2 -inch to 2-inch ball type, made of bronze with rubber coated handles. Valves shall be installed in rectangular valve boxes at least 14 inches by 20 inches, manufactured by Ametek, Carson, or an approved equal, and installed per industry standards.
- 3.7.13** Lighting will be included at neighborhood park sites with athletic fields whenever possible and as deemed appropriate by the Director of Parks, Recreation and Recreation. When lights are provided for athletic fields, lighting levels shall be per City Lighting Standards in effect at the time of City acceptance of the facility. Light poles shall be located behind the backstop, wings parallel to first and third baselines, and outside the area of play. The number of poles and lamps required shall be determined by the field configuration and the photometric measurements. Lighting level requirements vary with each type of field. Security lights shall be located halfway down the poles, not to exceed 30 feet in height, and illuminate the dugouts when field lights are off poles within the fenced playing areas shall be padded.

- 3.7.14** Permanent outfield fencing shall be required where there is no field overlay. All permanent fencing shall be a minimum 8 feet high and constructed of 6-gauge chain link. The fences shall have top, center, and bottom rails. For permanent fencing there shall be concrete mow strips and the fence will be covered with windscreen fabric. When field overlay occurs, temporary fencing shall be provided that is 3 feet high made of flexible mesh. Permanent fencing shall have a poly fence safety cap along its distance.
- 3.7.15** All poles within or in the vicinity of the playing area that are not protected by a fence shall have six 6 feet high pole pads.
- 3.7.16** Three (3) quick coupler valves shall be placed as follows: two along the field lines near the fence at the dugouts, and one in the grass area immediately behind the second base.
- 3.7.17** A concrete spectator area is required at all community park sites and at all regulation baseball fields. Although the spectator area is desirable in neighborhood parks, each site shall be evaluated for appropriateness, technical feasibility and financial impact. Spectator areas shall consist of five (5) rows of aluminum bleachers placed on a concrete pad. Companion seating for wheelchair users shall be provided within or immediately adjacent to each bleacher. All concrete shall drain away from the playing field.
- 3.7.18** Turf type shall be a Hybrid Bermuda variety and installed by stolonizing, sodding, or another acceptable method.

3.8 Regulation Baseball Field

| | |
|--------------------------|--|
| Base Length: | 90 feet. |
| Mound size: | 18 feet diameter, 10 inches high. |
| Infield radius: | 95 feet from center of the mound. Infield shall be turf with Turface MVP for base paths, batters area and mound to manufacturers specifications. |
| Pitching rubber: | 60 feet 6 inches from back point of homeplate to front of rubber. |
| Foul line to home plate: | Minimum 300 feet, ideal 310 feet to |

- Center field to home plate: 340 feet.
Minimum 380 feet; ideal 380 feet to 400 feet.
- Backstop to home plate: 50 feet
- Minimum setback: 125 feet from home plate/foul lines to street right of way, sidewalk or building.
- Field drainage: A sub grade infield drainage system shall be installed for all regulation fields.
- Scorekeepers area: An elevated concrete scorekeepers area shall be provided behind the backstop, directly behind home plate.
- Spectator area: Required.
- Backstop: Permanent winged style backstop required.
- Lighting: Minimum maintained lighting levels shall be 40 to 50 footcandles infield and 20 to 30 foot candles outfield.

3.9 Youth Baseball or Softball Field

- Base Length: 60 feet, 70 feet.
- Mound distance/Type: 44 feet (12 feet diameter, 4 inches high) 48 feet (12 feet diameter, 6 inches high).
Mound to be constructed by City after facility acceptance
- Infield radius: 65 feet from center of mound.
- Pitching rubber to home plate:
 - Softball: 38 feet or 40 feet from back point of home plate to front of rubber.
 - Baseball: 44 feet, 46 feet, or 48 feet from back point of home plate to front of rubber.
- Foul line to home plate: 200 feet.
- Backstop to home plate: 30 feet.

- Minimum setback: 75 feet from home plate/foul lines to street, right of way, sidewalk, or building.
- Backstop: Permanent winged-style backstop required.
- Lighting Levels: Minimum maintained lighting levels shall be 20 to 30 footcandles infield, 15 to 20 footcandles outfield.

3.10 Adult Softball Field

- Base Length: 60 feet, 65 feet
- Infield Radius: 65 feet from center of rubber.
- Pitching Rubber: 50 feet from back point of home plate to front of rubber.
- Foul Line to Home Plate: 275 feet minimum.
- Backstop to Home Plate: 30 feet.
- Minimum Setback: 125 feet from home plate /foul lines to street right of way, sidewalk or building.
- Backstop: Permanent winged-style backstop required.
- Lighting Levels: Minimum maintained lighting levels shall be 20 to 30 footcandles infield, 15 to 20 footcandles outfield.

3.11 Backstop and Spectator Area

- 3.11.1** An unobstructed area minimum 4 feet wide in front of and on each side of the bleachers, and minimum 6 feet wide at the rear of the bleachers shall be provided for accessibility. Concrete walkways shall be provided for access to the area.
- 3.11.2** Backstops and wings shall be 30 feet in height. Back of backstop, centered behind the home plate, shall be 20 feet long, with each wing extending 90 feet parallel to each foul line, including front of the dugout.
- 3.11.3** The area behind the backstop and wings, from first base to third

base, shall be poured concrete as shown in the Illustration Section. The minimum width of the concrete pad shall be 24 feet, including the bleachers and the access area.

- 3.11.4** An accessible drinking fountain shall be located on the concrete area behind home plate, providing a 15 foot radius to allow space for pedestrian traffic.

3.12 Standards Applicable to All Soccer, Football and Rugby Fields

- Field Orientation:** The long axis of the fields should extend north/south, at right angles to the late afternoon sun's rays.
- Field Placement:** Multiple fields placed adjacent to one another shall be placed side-by-side. Fields may be "off-set" to facilitate layout, but may not be end-to-end. The minimum separation between fields shall be ten (10) feet.
- Field Obstructions:** An area, minimum 10 feet wide, will be provided around the field where possible, with no trees, berms, planters, or sidewalks within 10 feet of the sidelines. If possible, a minimum of 6 feet from each corner of the field will be level grass with no obstructions.
- Turf:** Field turf shall be turf type 100% Hybrid Bermuda variety. Hybrid Bermuda shall be installed by stolonizing, sodding, or an acceptable alternative.
- Parking:** A minimum of ten (10) parking spaces will be provided with a proportionate number of ADA accessible spaces.
- Field Gradient:** The acceptable gradient range for soccer fields is 1.5 to 1.75 percent.
- Field Drainage:** Fields should typically use a corner pitch drainage pattern; however, field overlays and site situations may require the use of other patterns as illustrated in the Illustration Section. Permanent, dedicated, full time fields will have approved subsurface drains

under the penalty and the goal areas that will remove the water from the field.

Lighting: The average minimum maintained lighting level shall be 20 to 30 foot-candles over the entire field area. The number of poles and lamps required shall be determined by field configuration and photometric measurements.

3.13 Field Overlay

3.13.1 Field overlay situations often occur in order to optimize the recreational opportunities. In case of an overlay, fields shall be placed in one of the arrangement shown in the Illustration Section or in an acceptable alternative arrangement. In any field overlay, the edge of the soccer field shall be a minimum of 10 feet from the edge of the skinned portion of the baseball/softball field.

3.14 Basketball Court

Court: Playing area: 90 feet by 50 feet for full outdoor courts and 45 feet by 50 feet for half courts. Courts shall have a poured concrete surface five (5) feet wider in each direction than the playing area. A medium broom finish shall be used to prevent slipping.

Court Placement: 10 feet minimum distance between courts that are placed side-by-side. Where two or more courts are provided at one site, the courts should be configured for multi-purpose use.

Court gradient: 1.0 to 1.5 percent.

Markings: All markings on the playing surface shall be applied per the Illustration Section, using a wear-resistant, colored substance. All lines shall be minimum 2 inches wide unless otherwise noted.

Goals: All goals shall have capped 5 feet 9/16 inch straight posts with heavy duty adjustable bracing, a ¼ foot galvanized steel plate, rectangular 4 feet by 6 feet backboard offset, and double rim goal. All goals

are to have nylon nets and be set to regulation height. All goals are to have 6-foot offsets and a 7-foot pole pad with cable laces and hog rings. The nets provided shall be double headband 3mm polyurethane twin with an extra row of mesh in the net body. Goals shall have a lifetime warranty.

3.15 Pickleball Court

- Court:** The playing area is 20' X 44' with a finished surface of 40 feet by 64 feet.
- Surface:** Concrete, with a coarse, epoxy-bonded, colored surface. Colors shall be approved by the Parks and Recreation Director at final design.
- Parking:** 2 spaces per court minimum.
- Markings:** All lines shall be painted 2 inches wide.
- Gradient:** 1.0 to 1.5%
- Lighting:** All public courts should be lighted for night-time use. Minimum maintained lighting level shall be 30 footcandles at the baseline and 50 footcandles at the net line. The number of poles and lamps needed to maintain the required lighting levels shall be determined by photometric measurements. Lighting shall be controlled by a time clock placed at the main power panel for the park or inside the park.

Net and Posts: Posts shall be 4½ inches O.D. and constructed of heavy duty galvanized steel, with heavy duty hardware and internal ratchet. Nets shall have a double headband and be constructed of a 3mm polyurethane twine mesh with an extra row of mesh in the body of the net.

3.16 Tennis Court

Orientation: Courts should be laid out on a north-south axis line.

Court Dimension: 36 feet by 78 feet, with 12 foot side clearance on each side and 21 feet between each baseline and the fence.

- Court Placement:** When two or more courts are placed side-by-side, the minimum distance between adjacent sidelines of the courts shall be 12 feet. A fence, 42 inches high, shall be placed midway between each two adjacent courts, beginning at a 46-inch gate opening at each end. The minimum distance between the end of each court and the fence shall be 21 feet
- Court Gradient:** The acceptable gradient range for tennis courts is 0.5 to 1.0 percent, with a cross slope.
- Court surface:** Concrete, with a coarse, epoxy-bonded, colored surface. Colors shall be approved by the Parks and Recreation Director at final design.
- Parking:** 2 spaces per court minimum.
- Markings:** The courts shall have markings for both singles and doubles play. Baseline shall be painted 4 inches wide. All other lines shall be painted 2 inches wide.
- Fencing:** 12 foot high 6-gauge black chain link enclosing the court. The courts shall be shielded with an open mesh windscreen of black seamless polypropylene 9 feet high with center tabs.
- Net and Posts:** Posts shall be 4½ inches O.D. and constructed of heavy duty galvanized steel, with heavy duty hardware and internal ratchet. Nets shall have a double head band and be constructed of a 3mm polyurethane twine mesh with an extra row of mesh in the body of the net.
- Electrical Outlets:** Two (2) electrical outlets shall be installed at each court, one at each end. Each outlet must be 30 amps.
- Lighting:** All public courts should be lighted for night-time use. Minimum maintained lighting level shall be 30 footcandles at the baseline and 50 footcandles at the net line. The number of poles and lamps needed to maintain the required lighting levels shall be determined by photometric measurements. Lighting shall be controlled by a time clock placed at the main power panel for the park or inside the park building, if available.

3.17 Tournament Tennis Courts

Applicability: If more than 4 tennis courts are at the same location, the courts shall conform to the following standards to allow for tournament tennis.

Seating: Spectator seating shall be provided by portable bleachers containing five (5) rows of seating placed in an area approximately 28 feet with 14 feet. Bleachers are required on each side of the spectator area for viewing at least 2 courts. All seating facilities shall conform to accessibility regulations.

Benches: Two benches for players shall be located adjacent to each court. A bench for patrons waiting to use the courts shall be placed adjacent to the perimeter gate.

Drinking Fountain: An accessible drinking fountain shall be located on the concrete area in proximity to the bleachers, providing an 8-foot radius to allow space for pedestrian traffic.

Accessibility: An unobstructed area minimum 4 feet wide in front of and on each side of the bleachers, and minimum 6 feet wide at the rear of the bleachers shall be provided for accessibility. Concrete walkways shall be provided for access to the area.

Lighting: All tournament level courts shall be lighted for night-time use. Average maintained lighting level shall be 75 to 100 footcandles over the entire court area. The number of poles and lamps needed to maintain the required lighting levels shall be determined by photometric measurements. Lighting shall be controlled by a time clock placed at the main power panel for the park or inside the park building, if available.

3.18 Racquetball and Handball Courts

Court: 20 feet wide, 40 feet long, and 20 feet high.

Back Wall: Minimum 12 feet high with a door in the center.

Court Gradient: From 0.5 to 1.0 percent.

Court Surface: Concrete, with a medium broom finish. Court markings shall be applied using a wear-resistant substance.

Drainage: Courts shall slope to a single floor drain placed near the front wall corner.

Parking: One (1) space per court.

Door: Metal door with expanded metal window shall be provided.

Electrical outlets: Two (2) electrical outlets shall be installed at each court. The outlets shall be placed outside the court, adjacent to the door. Each outlet must be 30 amps.

Lighting: All courts located at community parks should be lighted for night-time use. The minimum maintained lighting level shall be 20 to 30 footcandles over the entire court area. The number and placement of light fixtures shall be determined by photometric measurements. Lighting shall be controlled by a time clock placed at the main power panel for the park or inside the park building, if available.

3.19 Volleyball Court

Court Dimensions: Concrete, grass, and sand courts: 42 feet by 80 feet, with a playing area of 30 feet by 60 feet.

Court Placement: Minimum 10 feet distance between courts placed side-by-side. Minimum 15 feet distance between courts placed end-to-end.

Court Gradient: 1.25 to 1.5 percent for concrete courts; 1.0 percent for turf courts.

Sand Courts: A concrete mow strip 4 feet wide is required surrounding the court. Minimum depth of sand shall be 10 inches. Sand shall be single washed with plaster or equivalent.

Markings: Markings on concrete courts shall be applied using a wear-resistant substance.

Nets & Posts: All volleyball standards shall be galvanized. The posts shall be 4 ½ inches O.D. The posts shall have a galvanized wheel and ratchet with a hole drilled in the ratchet for lock. A galvanized pulley for posts shall be used. The net shall have the cable along the top and rope along the bottom. The pole spacing shall accommodate a 32 foot net (approximately 38 feet apart).

Electrical Outlet: Two (2) electrical outlets shall be provided on a lamp pole, each with 30 amp power.

Parking: A minimum of 6 parking spaces will be provided for each court. A proportional number of ADA accessible spaces will be provided.

Lighting: Courts located at community parks shall be lighted. Minimum maintained lighting level shall be 20 to 30 footcandles over the entire court area. The number of poles and lamps needed to maintain the required lighting levels shall be determined by photometric measurements. Lighting shall be controlled by a time clock placed at the main power panel for the park or inside the park building, if available.

3.20 youth and Adult Roller Hockey Rinks

Dimensions: Youth Rink: Ideal: 80 feet x 160 feet; Minimum: 75 feet x 150 feet Adult Rink: Ideal: 85 feet x 180 feet; Minimum: 80 feet x 170 feet

Rink Gradient: The acceptable gradient range for a roller hockey rink is 1.0 to 1.5 percent.

Rink Surface: Rink shall be a smooth, poured concrete surface.

Markings: All markings on the playing surface shall be applied using a wear-resistant substance that is slip-resistant to rollerblades. Center line shall be 12 inches wide and painted red. Trisecting court lines shall be 12 inches wide and painted blue. Dots and goal crease

shall be painted blue. All other lines shall be painted black.

Spectator Seating: Spectator areas shall consist of two sets of aluminum bleachers, each with 5 rows, seating 70, on a concrete pad 28 feet by 14 feet. A minimum of 4 feet of concrete must be provided on all sides of the bleachers for accessibility. Concrete walkways shall be provided to the bleachers for accessibility. Adequate space for forward or rear side access to wheelchair seating must be provided.

Bench Areas: The penalty box area shall be divided into three portions: 2 separate penalty boxes 6 feet deep and 10 feet wide, separated by a scorekeeper's box 6 feet deep and 6 feet wide, with a total dimension of 6 feet by 26 feet. A 10 foot aluminum bench shall be provided in each penalty box. The players' bench areas and penalty boxes shall be paved with concrete and enclosed by 4 feet high 3/4 inch plywood walls. The floors in the players' bench areas shall be covered with a raised wood floor, approximately 6 inches higher than the concrete. The players' benches shall be aluminum, 30 feet long. Each players' bench area shall have one gate to the outside and one gate to the rink. The scorekeeper's area shall be fenced in (facing the rink) on each side and on top for safety. The scorekeeper's box shall have a gate to the outside minimum 42 inches wide. The players' bench and penalty box areas shall be covered with fencing on all sides and on top, except where there is a gate to the rink.

Fencing/Walls: The bottom 4 feet of the rink walls shall be 3/4 inch plywood, coated with a smooth fiberglass finish, with 3 foot wide gated openings to the 2 players' benches and 2 penalty boxes. The top edge of the plywood wall shall have a protective weather strip cap. The bottom 8 inches of the plywood wall shall have an 8-inch high kickplate made of strips of polyurethane. A 4-foot high chain link fence is required above the plywood walls on the sidelines. An 8-foot high chain link fence is required above the plywood walls at the goal ends, starting at the curve of the corners. Only the plywood walls in

front of the players' benches, gates, and penalty boxes shall not have chain-link fencing above. The chain link shall continue behind the players' benches. The chain link shall be 6-gauge, rubber-coated, with horizontal top and bottom rails. Vertical posts shall be placed no less than 8 feet on center.

Electrical Outlets: Four (4) electrical outlets shall be installed at each court. One outlet shall be on each side of the rink, with one outlet inside the scorekeeper's box. Outlets must be 30 amps.

Lighting: Minimum maintained lighting levels shall be from 40 to 50 footcandles over the entire rink. The number of poles and lamps needed to maintain the required lighting level shall be determined by photometric measurements. Light posts shall be 13 inches in circumference.

3.21 Play Area Design Standards

3.21.1 Intent

The Parks, Recreation and Recreation Department believes that access and safety are high priorities for design of children's play areas. Although public parks are typical locations for play areas, play areas can also be installed at schools, churches, day care centers, restaurants, and homeowner associations recreational facilities (private parks).

The City has developed design standards for play areas intended to increase safety, improve access, reduce maintenance costs, and reduce vandalism.

3.21.2 Requirements for Play Areas

3.21.2.a Prior to the installation of new play equipment a Play Area Plan will be submitted as a part of the Parks and Recreation Facility Site Plan for review and approval by the Director of Parks and Recreation or designee.

3.21.2.b The Play Area Plan shall demonstrate compliance to safety regulations ASTM F1487-98 Standard Consumer Safety Performance Specification of Play

area Equipment for Public Use, and the Consumer Product Safety Commission Handbook for Public Play area #325, and accessibility standards outlined in the May 2001 US Architectural and Transportation Barriers Compliance Board ADA Accessibility Guidelines for Play Area Guidelines publication.

3.21.2.c

Specific information included in the Play Area Plan submittal shall be: Scale diagram of play area layout, no smaller than 1" =30'; Dimensioned safety use zones around equipment, per manufacturer's specifications; Model numbers and manufacturer of equipment; Deck, platform and step heights for each component; Type of each play component; Location of accessible path of travel and access point to the equipment (transfer platform); Indicate accessible components. For the minimum number of required play components to be accessible, refer to the U. S. Architectural and Transportation Barriers Compliance Board (Access Board) A Guide to the ADA Accessibility Guidelines for Play Areas, attached in Appendix Section; Details on installation of safety surfacing, including section view with minimum depth of safety surfacing and method of drainage; Age group that the play equipment is designed for.

3.21.2.d

In addition to compliance to state regulations for safety, and federal accessibility guidelines, all newly constructed play areas shall be subject to the following City design standards: No more than 9" between preschool age (2-5 years) steps and platforms; No more than 12" between school age (5-12 years) steps and platforms; When two or more play areas are provided on one site, there should be distinct separation between preschool age play areas (2-5 years) and school age play areas (5-12 years) using walkways, seating areas or landscaped buffers to separate the two distinct areas. Signs designating age levels and use rules for the play areas will be posted; No metal slides, or merry-go-rounds are allowed. Slides shall be one piece, molded plastic; A variety of play experiences and graduated play challenges should be provided, including crawling, pulling/pushing, balancing, swinging, climbing,

spinning, sliding and fantasy/social play opportunities; The play area should be located a minimum of 50 feet in all directions from any hazards such as streets, parking lots and bike paths, barbecues, and tripping hazards. If located closer than 50 feet from streets, a 36 inch tall black, vinyl chain link fence with gate will be provided to enclose the play area; The play area should be visible from the street or parking lot for surveillance; A minimum of one shaded park bench shall be provided within the area to foster adult supervision of children; Play equipment shall not be composed of wood materials. Wood-look materials, such as recycled plastic lumber, may be used if approved by the Director of Parks and Recreation. Structural components shall be powder coated metal; Prior to the acceptance of completion of any play area, a letter shall be submitted to the City stating that the play equipment installation has been inspected by a person authorized by the manufacturer, that the equipment has been installed per manufacturer's specifications, and that it complies with the minimum play area safety regulations as specified above.

3.21.2.e

In addition to the above design standards for all play area, play areas at public parks shall be subject to these additional design standards: Engineered Wood fiber safety surfacing, pea gravel and sand is not allowed; Poured in place rubberized safety surfacing is required; is a goal that all public parks have swings within the play area, unless space imitations exist; It is preferred that both belt swings for the 5-12 year age group, and tot swings (swings to be used with adult assistance) for the 4 years and under age group be provided; All play areas shall have nighttime security lighting to deter vandalism; All public play equipment shall be of high quality materials designed to be vandal resistant, and shall have a demonstrated record of durability and availability of parts.

3.22 Lighting Standards for the new construction and Retrofitting of Outdoor Recreational Athletic Field Lights

3.22.1 Purpose

To provide standards by which architects, engineers, City staff shall plan the lighting design criteria for recreational athletic fields such as baseball, softball, soccer, and other similar facilities, which may be developed within the City of Chelan. These standards are designed to: Provide a safe lighting system for the welfare of participants and spectators; Mitigate the environmental impact of recreational athletic field lighting on the community; and Ensure that the standards established, continue to be met over the life of the lighting system, as well as during the planning and initial installation.

3.22.2 Policy

The Director of Parks and Recreation or designee shall ensure that the planning and implementation of lighting for recreational athletic fields is in conformance with the following standards as they apply to facilities which may be proposed, developed, retrofitted, or constructed. To provide for the welfare of participants and spectators, the following guidelines shall apply:

3.22.2.a Maximum Lighting

The maximum lighting value that shall be used in lighting recreational athletic fields shall be an average maintained 50 footcandles (see Annotation A), as measured in the horizontal plane on the inbound portion of the playing field as defined in the section describing the specific court or field.

3.22.2.b Minimum Lighting

The average minimum planned maintained light levels for recreational athletic fields are defined in the section describing the specific court or field.

3.22.2.c Guidelines

Ninety-foot baseball fields are recommended to be lighted to a maintained level of 50 footcandles horizontal on the infield and 30 footcandles horizontal on the outfield. Tennis courts are to be lighted at 50 footcandles measured at the net and 30 footcandles measured at the baseline. All other baseball and softball facilities are recommended to be lighted to 30 footcandles maintained horizontal on the infield and 20 footcandles maintained horizontal on the outfield. Other types of recreational athletic fields are recommended to be lighted to 30 footcandles maintained horizontal over

the playing surface.

3.22.2.d On-Field Measurement Criteria

Determining the method of measuring the horizontal footcandles shall be the maximum footcandle light value which would occur on a light meter held in the horizontal position with the light sensitive surface of the meter located between 3 and 5 feet above the surface to be measured.

Planning or maintained light levels for the purposes of this policy shall allow for IES light loss factors by using .80 of the rated lumens as the assumed maintained light output of the 1500 or 1000 watt metal halide lamps.

3.22.2.e Quality of Lighting

Facilities shall be planned with lighting uniformity not to exceed deviation of 3 to 1 when comparing the brightest to the darkest spot on the designated playing area, except that baseball and softball fields shall have a 3 to 1 measurement for the outfield portion, but shall have a measurement of 2 to 1 of uniformity on the infield.

Additionally, smoothness of lighting shall be evaluated to meet a standard not exceeding a 15% deviation in a 10 foot distance, except as the light values reduce at the end of the field (see Annotation C).

3.22.3 Environmental Control

The luminaries used to provide light on the recreational athletic fields shall include reflectors and application technology designed to protect the environment surrounding the facility and the operations at civilian airports from the impact of glare and spill lights.

3.22.3.a Glare and Spill Criteria

1. Spill Light

The maximum footcandle level on the property line of the facility upon which the planned lighted recreational athletic fields are located shall not exceed 1.5 footcandles.

The maximum footcandle level for the purpose of measuring spill light is defined as the maximum footcandle light value that would occur on a lightmeter located between 3 and 5 feet above the surface. The light-sensitive surface of the meter should be aimed at the light sources of greater intensity as viewed from that location.

This policy assumes that no playing surface area is closer than 150 feet to the property line. In the event any playing surface is closer than 150 feet to the property line, Procedure #3 shall apply (see Annotation D). Ambient light shall not be included (see Annotation E).

2. Glare Light

When viewed from any location outside the property line of the property on which the fields are to be lighted under the proposed plan, the maximum acceptable glare shall be determined by the following candlepower limitations at the light source; For any single fixture, the maximum candlepower shall not exceed 12,000 candlepower; When the cumulative total of the candlepower of all the luminaries on any single pole for the luminaries aimed at any one field exceeds 30,000 candlepower, then the average of all the fixtures aimed at measurement point, on the single pole, shall not exceed 4,000 candlepower per fixture; At any location where the property line is less than 150 feet from the playing surface (see Procedure #3 and Annotation D).

The single value candlepower curve shall be calculated with all the fixtures on the individual field simultaneously illuminated and with all fixtures aligned as they are proposed to be aligned for the final installation.

3. Extended Spill Light Scale

The manufacturer of the lighting equipment shall also submit a numeric simulation of the maximum footcandles as determined for spill light measurement for a distance of 1,000 feet each direction from home base for softball and baseball fields, or from the approximate center of other types

of fields with light values shown on 50-foot field.

Where applicable, the City of Chelan may request the extended maximum footcandle scans to be provided for purposes of determining spill light, in which all fields are assumed to be simultaneously illuminated to determine the cumulative effect of the spill light of the fields.

4. Extended Glare Light Scan

The manufacturer shall also, upon request, submit with the plan an extended numeric model for each to determine the sufficiency of the equipment to achieve the designed performance of the plan.

3.23 Equipment Criteria

To assure that the proposed recreation and athletic field lighting is capable of meeting the criteria set out in this policy, the luminaries to be used must meet the following minimum performance criteria:

3.23.1 Arc Tube Brightness

No portion of any arc tube shall be visible beyond 12 degrees vertical and 35 degrees horizontal measured from the maximum candlepower point of any fixture.

3.23.2 Output of Light Beam

The candlepower from the fixture above the maximum candlepower axis of the fixture shall not exceed the candlepower quantity at the specified degree measured in a vertical plane above the maximum candlepower axis as follows:

| Nema Type Reflector for Vertical | Degrees above Maximum Candlepower Candlepower | In Vertical Plan |
|--|---|------------------|
| Nema 2 | 12,000 | 18 degrees |
| Nema 3 | 12,000 | 20 degrees |
| Nema 4 | 12,000 | 22 degrees |
| Nema 5 | 12,000 | 28 degrees |
| Nema 6 | 12,000 | 34 degrees |

All new construction or retrofitted fields shall have glare and spill controls in the construction of the

lighting. Glare control shall include a requirement that no light rays may emanate from the luminaries above horizontal in a direct manner.

3.23.3 Application Criteria

The maximum candlepower aiming point of each luminary used in lighting recreational athletic fields shall, as a minimum requirement, be aimed at least 25 degrees down from horizontal. Furthermore, as an additional criteria for the aiming of fixtures, it shall be a requirement that any axis line from the fixture where the output of the fixture is 12,000 candlepower or more, that line shall be aligned down from horizontal a sufficient number of degrees to strike the surface so as to meet the glare criteria of this standard; however, in any event not more than 150 feet outside the boundaries of the playing field.

3.24 Submittal Documents

Plans for lighting recreational athletic fields shall include with their submittal for approval a numerical model that shows compliance with these guidelines and shall describe their compliance in the following manner, and shall each be presented on documents using 1 inch equals 200 feet.

3.24.1 Glare and Spill Documents

3.24.1.a Isocandela Curve of Total Candlepower

To establish a numerical model from which glare and spill control can be evaluated, there shall be provided with the lighting plan the plot of a line showing the total candlepower around the field at a uniform quantity of candlepower determined by multiplying the number of fixtures illuminating the field times the quantity of 2,000.

The single value candlepower curve shall be calculated with all the fixtures on the individual field simultaneously illuminated and with all fixtures aligned as they are proposed to be

aligned for the final installation.

3.24.1.b. Extended Spill Light Scans

There shall also be submitted a numeric simulation of the maximum footcandles as determined for spill light measurement for a distance of 1,000 feet each direction, from home base for softball and baseball fields or from the appropriate center of other types of increments. This light scan shall be run with all the lights operating on the applicable field.

Where applicable, the City of Chelan may request the extended maximum footcandle scans to be provided for purposes of determining spill light in which all fields are assumed to be simultaneously illuminated to determine the cumulative effect of the spill light of the fields.

3.24.2

Equipment Criteria

There shall be submitted with each proposed recreation and athletic field lighting project a written statement signed by the manufacturer, which provides the information as to degrees above vertical from a maximum candlepower, at which the candlepower output ceases to exceed 12,000 candlepower from the vertical plane above the maximum candlepower and in a vertical plane 15 degrees to the right or left of the maximum candlepower, which documentation shall establish that the equipment meets or exceeds

The criteria set out above the equipment. The City of Chelan may, at its discretion, require a demonstration of the proposed lighting equipment to confirm the submittal documents.

For proposed recreation and athletic field lighting projects, there shall be submitted a scale drawing showing the following information: The location and height of each pole; The number of light fixtures to be located on each pole; The point on

the ground where the max candlepower of each fixture is to be aimed; The horizontal and vertical aiming angles for each fixture to that max candlepower aiming point; The point on the ground where each fixture reaches 12,000 candle power at the greatest angle in which that occurs above the max candle power aiming point; The vertical and horizontal degrees from each fixture to that 12,000 candlepower point.

3.25 EVALUATING GLARE AND SPILL CRITERIA RESULTS

The science of lighting is such that there is a direct fixed relationship between candlepower, glare, and footcandles at any specifically defined point.

The most clearly determined measurement and the most convenient measurement is the footcandle reading at a given point. Accordingly, the primary method of evaluating the glare and spill performance criteria shall be to test the footcandle numbers provided on the extended spill lighting scan against actual readings at the designated location.

To confirm the correlation between the isocandela curve of the candlepower and the extended light scan of footcandle readings, the City may require the specific candlepower calculations and footcandle calculation for a sampling of the locations around the facility so that it may be determined that the various points are mathematically and scientifically consistent.

The City may additionally, at its discretion, further require additional candlepower information to permit direct testing of candlepower at specific off-site locations through the use of footlambert or candlepower measuring devices.

All light must remain on the designated playing surface with zero spillage off site unless approved by the Director of Parks and Recreation.

3.26 LONG-TERM PERFORMANCE

The performance guidelines established herein for the lighting of recreational athletic fields need to be adhered to, not only in the planning stage and the initial installation stage, but also during the life of the equipment on the facility. Accordingly, the following

standards must be provided for in plans for the lighting of the facility and adhered to upon installation.

Details of the design of the luminaries and the luminary assembly shall be sufficient to show the nature of the materials to be used in the construction of the luminary and that the materials are properly selected and applied that the effect they achieve on glare and spill control on the surfaces of the reflector can be sustained in the environment of wind, heat, air, and ultraviolet sunlight to which the equipment will be subjected.

3.26.1 Mechanical Alignment

Sufficient design details of the luminary assembly shall be provided to show that the mechanical alignment of the luminary assembly has sufficient structural strength of materials and connecting methods to provide that the system will remain accurately aligned in winds of 125 miles per hour with a gust factor of 1.3, such that the glare and spill control standards will be maintained over the life of the equipment.

3.27 Procedures

The following steps shall be followed to ensure that new construction or retrofitted lighting complies with these standards for recreation and athletic uses in City parks:

3.27.1 Architects

These standards shall be provided to architectural firms who are proposing to provide design for new lighting systems.

3.27.1.a The following should be carefully considered in the design of parks with lighted recreation athletic fields: Pole heights shall be maximized to ease or improve upon the environmental control parameters of these standards; Pole placement shall be such that each field is illuminated from adjacent poles surrounding that field; Lights shall be placed on crossarms at the top of poles, rather than spaced vertically along poles. Multiple crossarms, placed immediately below the top arm may be used where warranted by the number of lights; Park or field boundaries shall have berms and landscaping to minimize the visibility of the illuminated playing field from adjacent streets and residential property lines.

3.27.1.b Lighting Consultant

A lighting consultant with experience in spill and glare control compliance may be required to provide documentation of compliance assurance in the master plan approval process, as well as to ensure proper construction to meet the specifications.

3.27.1.c Appeal

In order that the provisions of this policy may be reasonably applied in instances where difficulties exist and unnecessary hardship would result to recreational athletic fields due to an inability to light a facility in an otherwise reasonable location, then an appeal may be made to the Recreation Board for recommendations to the City Council. Only the City Council shall waive provisions of this policy.

3.28 Annotation

The annotations included with this policy are intended to describe the technology that is to be utilized in achieving the standards established in this policy.

3.28.1 Maximum Horizontal Footcandles

The maximum glare and spill light levels have been set, based upon the combination of the available glare and spill technology and the desired light requirements for the facility, as stated in horizontal footcandles. However, since maximum light values are established for environmental protection and since, for purposes of environmental protection, the light values as viewed from the off premise locations are not directly affected by the horizontal footcandles, therefore, only the glare, which is measured in candlepower, and the spill light, which is measured in footcandles at or outside the property line, shall be ultimately determinative of the impact of maximum light values. Accordingly, the maximum horizontal footcandle guidelines for the playing field are advisory only as to glare and spill control. The candlepower limitations for glare and the footcandle limitations for spill light, established elsewhere in this policy are the governing guidelines for environmental control of light.

3.28.2 Maintained Light Values

Current manufacturers' lamp catalogue publications list the initial lumen output as 155,000 lumens to 162,000 lumens for the various manufacturers. Test results available, and published

manufacturers' charts for depreciation of lamps offer somewhat varying allowances for the amount and rate of depreciation of the lamps.

The dirt factor which will affect light output can only be estimated, as it will vary depending upon weather conditions and the environment in which the lighting is installed. For purposes of testing new installations, the IES and manufacturers' guideline of 100 hours of burning time shall be used. Accordingly, tests to determine initial light values for purposes of pro-rating to maintained light values shall be conducted after the lamps in the lighting system have been operated for 100 hours,

Accordingly, the policy established herein has set .80 of the rated initial lumens as the guideline for the IES standards of light loss factor to be used so that a consistent standard for lighting design can be applied to all new installations.

To assist in determining whether or not the field exceeds the maximum allowable lighting levels, the manufacturer shall supply a numerical computer simulation of the anticipated initial light value after the 100 hours of operations as a guideline for measurement.

3.28.3 Light Smoothness

As of the time of the adopting of this policy, no IES guidelines exist for a smoothness of lighting on athletic facilities. It is anticipated that the IES will publish standards at some time as to this issue and at such time as the IES guidelines are established, those guidelines shall govern the issue of smoothness for purposes of this policy. Until such time as the IES establishes such guidelines, these standards, as provided, shall be the applicable standards,

3.28.4 150 Foot Measuring Distance

Existing technology for glare and spill control permits these standards to be met under normal circumstances at distances of 150 feet outside the playing area of any field. Accordingly, the guidelines are written to permit the glare and spill standards to be applied at a distance 150 feet from the playing surface wherever that distance occurs on property which is part of the same parcel upon which the playing field is located.

Wherever the distance between the playing field and adjoining properties is less than 150 feet, then it is the intent of this policy that more stringent spill and glare control shall be applied to those

lights on the playing field which impact upon adjacent property located less than 150 feet from the playing surface. In those circumstances, then the standards in this policy shall be met.

3.28.5 Ambient Light

Ambient light from sources other than the planned playing field lighting shall be excluded in determining the footcandles of spill light. To test the quantity of spill light from the field lighting, there shall first be taken light meter readings at the designated location without the design field light shown in the plan to determine the ambient light. These quantities of light shall be deducted from the light values measured with the field lights operating.

3.28.6 Isocandela Curve

The purpose of the isocandela curve of total candlepower is to establish a mathematical benchmark against which spill and glare calculations can be confirmed in the event questions arise during the testing process after installation, or for purposes of determining whether or not equipment proposed to be used has the technical capability, at the proposed aiming angle, of achieving the designed glare and spill standards.

The use of 2,000 times the number of fixtures is based upon the maximum average candlepower of 4,000 per fixture from a pole, and then reduced by one-half on the assumption that one-half of the fixtures will be facing away from any given surrounding point.

3.29 General Park and Trail Lighting

The provisions of this section shall apply to community buildings, parks, open spaces, trails, community swimming pools, and associated sidewalks and parking lots.

3.29.1 Structures shall comply with all provisions of the adopted City Building Code.

3.29.2 Exterior Lighting shall conform to the following standards:

3.29.2.a All types of exterior doors shall be illuminated during the hours of darkness with a minimum maintained one (1) foot-candle of light at ground level, measured within a five (5) foot radius from the center of the door.

3.29.2.b Recessed areas of buildings or fences, which have a

minimum depth of two (2) feet, a minimum height of five (5) feet, and do not exceed six (6) feet in width and are capable of human concealment, shall be illuminated with a minimum maintained twenty-five one-hundredths (0.25) foot-candles of light at ground level during the hours of darkness. This requirement applies to defined recessed areas which are within six (6) feet of the edge of a designated walking surface with an unobstructed pathway to it, not hindered by walls or hedge tow landscaping a minimum of two (2) feet in height.

- 3.29.3** Stairways shall be illuminated with a minimum one (1) foot-candle of light on all landings and stair treads, during the hours of operation, including one hour thereafter.
- 3.29.4** Parking lots and walkways accessing buildings and parking areas shall be illuminated with a minimum maintained one (1) foot-candle of light on the driving or walking surface during the hours of operation and one hour thereafter.
- 3.29.5** Trails not incorporated in the roadway shall be illuminated. with a minimum maintained twenty-five one-hundredths (0.25) foot-candles of light at ground level during the hours of darkness.
- 3.29.6** Paved walkways in open space areas, not directly serving buildings or parking areas, shall be illuminated with a minimum maintained twenty-five one-hundredths (0.25) foot-candles of light on the walking surface during the hours of operation and one hour thereafter.
- 3.29.7** Swimming pool decks and other hard surface recreation activity areas shall be illuminated with a minimum maintained one (1) foot-candle of light on the walking surface during the hours of operation and one hour thereafter.
- 3.29.8** The light source utilized to comply with this section to meet parking and drive surface lighting shall have a rated average bulb life of not less than 10,000 hours.
- 3.29.9** Luminaries utilized to meet the requirements of this section shall have vandal resistant light fixtures, if accessible, and be not less than eight (8) feet in height from ground level. A luminaire not less than forty-two (42) inches may be utilized to illuminate a walkway if adjacent landscaping is of a variety which does not mature higher than two feet, and it does not interfere with the

required light distribution for a distance of sixteen (16) feet along the walkway. Light fixtures shall be deemed accessible if mounted within fifteen (15) feet vertically or six (6) feet horizontally from any accessible surface or any adjoining roof, balcony, landing, stair treads, platform or similar structure.

- 3.29.10** Activation of the required exterior lighting shall be either by a photocell device or a time clock with an astronomic clock feature.
- 3.29.11** A site plan shall be provided showing buildings, parking area, walkways, detailed landscaping and a point-by-point photometric calculation of the required light levels. Foot-candles shall be measured on a horizontal plane and conform to a uniformity ratio of four to one (4:1 average/minimum). Landscaping shall not be planted so as to obscure required light levels.
- 3.29.12** Public recreation facilities and spaces shall utilize light poles and fixtures listed in the Chelan Development Regulations approved list.

3.30 Tests

- 3.30.1** It shall be the responsibility of the owner, or his designated agent, of a building or structure falling within the provisions of this code to provide the enforcing authority with a written specification performance test report indicating that the materials utilized meet the minimum requirements.
- 3.30.2** Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that any material or any construction does not conform to the requirements of this manual, or in order to substantiate claims for alternate materials or methods of construction, the enforcing authority may require tests as proof of compliance to be made at the expense of the owner or his agent by any agency which is approved by the enforcing authority.

3.31 Trail Design Standards

The following sections describe the general guidelines for trail design and construction.

3.31.1 Primary and Secondary Trails

- 3.31.1.a** Single surfaced tread with a minimum width of ten feet. Tread width may be reduced to 48 inches for a maximum distance of 10 feet to pass or preserve

significant features such as rock formations, important vegetation, etc.

- 3.31.1.b** Tread surface will be asphalt, or wood decking. The tread material including any base course will have a total minimum thickness of six inches. Wood deck planks must be run perpendicular to the direction of travel and joints must not exceed 36 inch. Planks must be securely fastened so they do not warp.
- 3.31.1.c** The minimum cleared zone will be tread width plus one (1) foot to either side of the tread and 10 feet vertical.
- 3.31.1.d** Maximum sustained running grade is 5%. A 10% maximum grade is allowed for a maximum distance of 30 feet.
- 3.31.1.e** Tread will be raised above adjacent surfaces and have a 1 to 2 inch crown. Where this requirement is not possible, the tread will have a 1 to 20 cross slope and/or side ditches outside the cleared zone. Stream crossings will be over culverts or bridges. Only dips or slot-entrance drainpipe will be used for crosstread water stops.
- 3.31.1.f** Adequate visibility for safety.
- 3.31.1.g** The minimum acceptable trail easement width is 25 feet.
- 3.31.1.h** Trail entrances will be signed describing the degree of ADA access.

3.32 Pathways

- 3.32.1** Single surfaced or unsurfaced tread, four (4) foot minimum width. Tread width may be reduced to 32 inches for a maximum distance of 30 feet to pass or preserve significant features such as rock formations, important vegetation, etc.
- 3.32.2** A gravel or particulate tread surface will be a minimum of six inches thick. Native soil tread is acceptable only where the soil will allow all-weather use with minimal environmental impact.

Paths or portions of paths designed for ADA access will be surfaced with a minimum of wood decking as described under Primary Trails, natural fines, or with a well maintained compacted crushed gravel.

3.32.3 The minimum cleared zone will be tread width plus one foot horizontal, and ten feet vertical.

3.32.4 Grades will be 15% or less. Paths or portions of paths designed for ADA access will have a maximum sustained running grade of 8% and a 14% maximum grade is allowed for a maximum distance 50 feet.

3.32.5 Tread will be raised above the adjacent surfaces and have a 4 inch crown. Where this requirement is not possible the tread will have a 1 to 20 cross slope and/or side ditches outside the cleared zone. Stream crossings will be over culverts or bridges. Only dips, slot-entrance drain pipe, or rubber belting will be used for cross-tread water stops.

3.32.6 Wood chips are an acceptable tread material for Paths.

3.32.7 Geo-textile material will be placed beneath any gravel or particulate tread material in poorly drained, boggy or marshy areas, or wet meadows and on any of the following soil types; clays, clayey loams, silts, or silty loams.

3.32.8 Adequate visibility for safety.

3.32.9 The minimum acceptable easement width is 25 feet.

3.32.10 Entrances will be signed describing the degree of ADA access.

3.32.11 All above items may be modified to meet current ADA specifications.

3.33 Unimproved Pathways

3.33.1 Single tread of a minimum 18 inch width. Portions of paths designed for ADA access will be a minimum width of 28 inches.

3.33.2 No surfacing is required except in erosion prone poorly drained, boggy or marshy areas, or wet meadows.

3.33.3 The minimum of cleared zone will be the tread width horizontally

and seven feet vertically.

- 3.33.4 Maximum of 20% grades unless restricted by erosive soils, etc. Portions of paths designed for ADA access will have a maximum sustained running grade of 12% and a 20% maximum grade is allowed for a maximum distance of 50 feet.
- 3.33.5 Utilize grade dips, cross sloping, and water bars to minimize erosion.
- 3.33.6 Blending the trail into the setting is emphasized in trail routing.
- 3.33.7 The minimum acceptable trail easement width is 25 feet.
- 3.33.8 Wood chip tread materials are acceptable when traffic is limited to pedestrian traffic in sensitive locations such as in wetland nature education areas.
- 3.33.9 All above items may be modified to meet current ADA specifications.

3.34 Trail Accessibility Ratings

| FEATURE | EASY | Medium | HARD |
|--------------------------|-------------|------------|------------|
| Clear width (minimum) | 120 inches | 72 inches | 36 inches |
| Sustained running grade | 1-5 percent | 8 percent | 12 percent |
| Maximum grade allowed: | 10 percent | 14 percent | 20 percent |
| Maximum distance of: | 30 feet | 50 feet | 50 feet |
| Cross slope: | 3 percent | 5 percent | 8 percent |
| Max. passing interval: | 200 feet | 300 feet | 400 feet |
| Max. rest area interval: | 400 feet | 900 feet | 1200 feet |

Note 1: No more than 20% of the total trail length shall exceed the sustained running grade.

Note 2: Cross slope may not exceed 3% in maximum grade segments, or 5% in maximum grade segments on difficult access trails.

Note 3: The measurement of maximum grade and cross slope should be made over a 24" measurement interval to correspond to the footprint of a wheelchair operating in that environment.

3.35 Trail Corridors

The trails are to be routed so as to maintain a natural setting, to avoid disturbance to private landowners adjacent to the trail as much as possible and to preserve wildlife habitat and important vegetation. While the minimum acceptable trail easement is 25 feet, the more practical and desirable easement width is 35 feet except in riparian areas where it is 100 feet.

3.36 Road Crossings

Road crossings should occur at points of good visibility, perpendicular to the roadway (if possible), and at natural crossings, if possible. Full access sections should be equipped with curb cuts.

3.37 Signage

Trails and paths should be signed at road crossings and all other public access points with signs that define uses and restrictions. Paths should be signed only at the main entrances. These signs should describe uses, trail surface conditions, limitations, such as ADA degrees of access.

3.38 Guidelines for Sustainable and Aesthetic Trail Construction

3.38.1 Goals

A sustainable trail surface can be created with minimal disturbance and maximum variety and interest if the following goals are met:

- 3.38.1.a Minimize soil disturbance in order to allow plants and animals the best chance for survival; aesthetic appeal will be correspondingly high.
- 3.38.1.b Eliminate the potential for erosion.
- 3.38.1.c Use arboriculturally correct and aesthetic pruning or removal of free limbs and shrubs.
- 3.38.1.d Minimize drainage problems by removing water at the first opportunity.
- 3.38.1.e Do not allow water to stand on trail.
- 3.38.1.f Maintain existing drainage patterns; do not force nature.

- 3.38.1.g Outslope the trail to dispose of sheet drainage; accurately shape backslope to prevent erosion.
- 3.38.1.h Coordinate excavation with vegetation and drainage considerations.
- 3.38.1.i Use select borrow or retaining walls to improve less than adequate trail surface areas.
- 3.38.1.j Attain proper slope and compaction through a detailed analysis of on-site conditions during wet and dry periods.
- 3.38.1.k Make decisions to benefit the trail user; remove sharp plants from close proximity to the trail. Consider the physical and visual relationship of vegetation to the trail.
- 3.38.1.l Where appropriate, narrow the clearing width by leaving brush close to the trails edge; excessive clearing allows bicycles to travel faster and leave the tread when cornering.
- 3.38.1.m Retain dead standing trees when safety permits because wildlife use trails and snags offer homes and feeding locations for many bird and mammal species. Consider erecting nest boxes or creating artificial snags in woodlands near the trail route.

3.38.2 Steps to Trail Construction

There will be a variety of ways to accomplish construction ranging from building the trail completely with hand tools and volunteers to having the trail constructed by professionals with trail building machinery.

After the final route has been determined and permits and funding obtained, the construction of the trail may begin. The following is a general guide to trail construction that describes individual steps for construction within a trail corridor that has no existing trail.

Step One - Stake the Route

1. Stake the trail route from start to finish, stake the center-line or both sides of the trail, place the stakes to define the trail bed and clearing limits.
2. Begin construction by removing trees, brush, and rocks from the tread.
3. Site characteristics will determine what tools are needed. Hand tools, such as axes, loppers, bow saws, weed whips, and chain saws will be sufficient in most cases.
4. The trail can be cleared much faster with motorized equipment. Motorized equipment is not recommended for trail less than 4 feet wide.

Step Two - Grade the Trail Bed

1. Grade the trail bed on slopes as required.
2. On slopes, remove leaf litter and topsoil material from the cut-and-fill areas and save for later use.
3. Select an angle for cut-and-fill slopes based on site soil conditions, amount of rainfall, and plant cover. Ideally, retain cut and fill slopes at less than 1:1.
4. Spread topsoil and organic material on large embankments susceptible to erosion to encourage vegetation regeneration.
5. On very steep slopes use netting material, such as jute mesh or chicken wire held in place with stakes, to hold the topsoil and mulch in place. Round out the top of embankment shoulders to prevent soil from sliding onto the trail.
6. Remove boulders, logs and other debris that may fall onto the trail

7. Avoid disturbing plants at the top of the cut slopes and at the base of embankments.
8. Pitch the trail tread at 1.5-3.0 percent toward the outside edge to allow for drainage. Make the tread slightly wider in areas where sloughing of the trail edge is likely to occur.

Step Three - Remove and Clear Vegetation

1. Cut shrubs and small trees flush with the ground to prevent tripping and to reduce stump sprouting. Avoid cutting healthy trees larger than 7 inches in stem diameter. Some trees, such as box elder, elm, and cottonwood, may require chemical stump treatments to prevent resprouting.
2. Prune overhanging branches cleanly at the branch collar on the tree trunk or where a branch forks. To avoid rapid regrowth, it may be better to remove small trees than to cut off their tops.
3. Trim exposed roots flush with the soil surface.
4. Remove large rocks and fallen logs from the trail, unless they are to be kept as obstacles to prevent motorized use.
5. Scatter branches and other debris off the trail or pile for wildlife cover.

Step Four - Finish Tread

1. For these segments, the ideal surface is natural soil free of large stones, stumps, and protruding roots.
2. Natural trails often become easily distinguishable and comfortable to walk on after a month of regular traffic.

3. Always avoid unnecessary disruptions of the ground surface. If leveling is required, use a shovel, small caterpillar (D-2 or equivalent) or Sweco 480 trail dozer to sheer off a thin layer of topsoil, level humps, and fill holes. Gravel or other fill materials may be used to elevate the trail in wet areas.

3.39 Trail Construction Obstacles

Obstacles that requires special attention may be found along the trail route. Recognizing and protecting such areas during construction will help reduce later maintenance costs and potential environmental damage. Some methods are relatively simple and inexpensive; others can be extremely difficult and expensive.

3.39.1 Subsurface Drainage

Water tends to pool on trails that are located on low-lying, level terrain. Raising the tread way 3 to 6 inches (or more) above the surrounding terrain will allow water to drain away, reduce maintenance costs, and ensure comfortable trail use. Use gravel, flat stones, or other fill material to elevate the trail surface. A less-expensive technique for moving water off the trail is center crowning. Fill materials can be obtained from gutters cut on both sides of the trail to facilitate drainage.

3.39.2 Surface Drainage

On steep slopes, poorly designed and constructed tread ways allow water to accumulate, gain downhill velocity, and erode the trail. Flowing water must be diverted off the trail. One effective method is to outslope the trail surface at a 2 to 3 percent grade toward the downhill side. Grade dips or water bars also maybe used, Grade dips are short trail sections cut at a grade opposite that of the prevailing trail surface. Grade dips typically are established at natural drainage ways or ditches with intermittent flows.

Water bars are obstructions on the trail surface designed to divert water off the trail. They usually are constructed with logs or stones placed at a 30-degree angle from the trail's edge. Such water bars must extend well beyond both sides of the trail to prevent water or people going around them. Logs must be at least 6 to 8 inches in diameter. Rubber water bars are another option that reduces potential hazards to bicyclists. Increase the number of water bars as the trail's grade increases.

3.39.3 Stream Crossings

Many trails eventually cross a drainage ditch or small stream. State jurisdiction over the use of protected waters and wetlands generally begins at a point known as the ordinary high water mark. Permits from the U.S. Army Corps of Engineers and/or Department of Ecology, Fish and Wildlife and Department of Natural Resources may be required before constructing any crossing, including stream fords.

Bridge designs vary depending on the length and height of the crossing, type and amount of trail use, and size of maintenance equipment. On hiking trails, a simple log bridge may be used for stream crossings less than 10 feet wide. For ADA accessible bridges, the following standards apply:

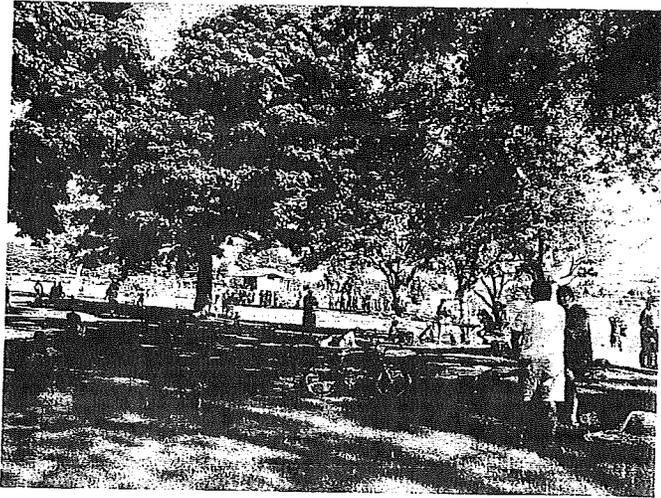
- 3.39.3.a** Minimum width shall be no less than 36 inches for bridges 20 feet or less in length.
- 3.39.3.b** Minimum width shall be 72 inches, if length of bridge exceeds 20 feet, to allow wheelchair turn around and passing.
- 3.39.3.c** Height of bridge is measured from bridge deck to bottom of stream or river.
- 3.39.3.d** If height of bridge is more than 30 inches, a protective rail is required.
- 3.39.3.e** Rails are to be 42 inches high, with at least one midrail at 34 inches, to be used as a handrail.
- 3.39.3.f** Rails must have a protective barrier, with spacing being no more than 4 inches at any point.
- 3.39.3.g** All bridges to be installed on public lands must be certified by a licensed civil or structural engineer.
- 3.39.3.h** If bridge does not require a rail, it must have a 4 inch high curb on, both sides, along entire length of bridge.
- 3.39.3.i** Deck should be constructed of slip-resistant material.
- 3.39.3.j** Deck of bridge shall not exceed a 12 to 1 slope along any part of its length.

3.39.3.k The deck surface between the ends of the bridge shall not vary from a flat plane by greater than 1/2 inch.

3.39.3.l Cross slope of the deck shall not exceed 3%.

3.40 Standards that apply to all golf course areas

3.40.1 Golf course areas will be constructed to USGA standards.



Chapter 4:
PARKS AND RECREATION
FACILITY SPECIFICATIONS

4.0 Intent

The Parks, Recreation and Recreation Department believes that the preservation of the unique character or theme of each publicly owned park is important and should be maintained whenever possible. Further, this document is to serve as a guideline; there may be occasions when it is appropriate to depart from these standards. Departure from these standards will require approval from the Director of Parks and Recreation.

The specifications and details in this section of the manual are a culmination of years of investigation, experience, and history. Many factors were taken into consideration in arriving at these guidelines, including: Safety, inventory standardization, maintainability of equipment, product availability and cost, initial and replacement costs, staff resources, maintaining aesthetics and service levels, applicable State and County laws, recycling, and environmental concerns.

4.1 Picnic Tables

- 4.1.1 Two tables per acre for each of the first three acres, then one table per acre. All tables and seats shall be 8 feet long.
- 4.1.2 Each table shall be placed on a reinforced concrete pad, 12 feet long, 9 feet wide and 4 inches thick, with the length of the table parallel to the length of the pad.
- 4.1.3 All frames shall be 2 3/8-inch OD galvanized metal. Positioning of frame to top and seats shall be per manufacturer's specifications. Comparables may be substituted only with prior approval from the Parks and Recreation Department.
- 4.1.4 All tables and seats shall be surface mounted, using stainless steel anchor bolts.
- 4.1.5 Coated Expanded Metal: Top and slats shall be fabricated from 11 gauge punched flat steel sheet with 11 gauge steel bracing welded to the underside for extra rigidity. Top and seat shall be coated with a 1/8-inch oven-cured poly-vinyl chloride, dark green in color.
- 4.1.6 All frames shall be fastened to concrete slabs with a red head SRM 38 stainless steel drop-in anchor, a 3/8-inch by 3-inch, stainless steel hex head bolt and a 3/8-inch flat stainless steel washer, Frame

to frame connections shall be made with the appropriate size bolt made of stainless steel. No lag bolts will be accepted.

- 4.1.7 All packing labels shall be removed prior to installation in a manner that does not damage the surfaces.
- 4.1.8 At least 50 percent of all picnic tables shall be handicap accessible.
- 4.1.9 Preferred models: Summit supply T8STDHDCP4-4SM.

4.2 Benches

- 4.2.1 Required at play areas and athletic courts in addition to general locations. All benches must have backs and shall be 6 feet long.
- 4.2.2 All park benches shall be placed on a reinforced concrete pad. Benches shall be centered on the pad. If there is a non-flush obstruction at the front of the bench, the bench shall either be placed flush to that obstruction or shall over-hang it, so as not to present a safety hazard.
- 4.2.3 All frames shall be 2 3/8 inches OD-galvanized surface mounted type. Comparables may be substituted only with prior approval from the Parks and Recreation Department.
- 4.2.4 Seats shall be surface mounted, using stainless steel anchor bolts.
- 4.2.5 Coated Expanded Metal: Seats and backs shall be poly-vinyl coated expanded metal. Finished poly-vinyl coating shall be approximately 0.08 inches thick with 85 durometer hardness and a matte finish. Color shall be dark green.
- 4.2.6 At least 50 percent of all park benches should be handicapped accessible with companion seating space next to the bench, outside of the path of travel.
- 4.2.7 All packing labels shall be removed prior to installation in a manner that does not damage the surfaces.
- 4.2.8 All fasteners shall be stainless steel.
- 4.2.9 All frames shall be fastened to concrete slabs via a red head SRM 38 stainless steel drop-in anchor, a 3/8-inch by 1-inch stainless steel hex head bolt, 3/8-inch flat washer and 3/8-inch lock washer, both stainless steel.

- 4.2.10 Preferred models: Litchfield Industries main street grand central bench. Color dark green.

4.3 Drinking Fountain

- 4.3.1 All fountains shall be vandal resistant, frost proof, dual purpose and handicap accessible.
- 4.3.2 Each fountain shall be set on a 2½ feet long, 2 feet wide, 4 inches thick concrete slab and positioned in accordance with manufacturer's specifications.
- 4.3.3 All anchors and anchoring material (bolts, nuts, washers, etc.) shall be of stainless steel.
- 4.3.4 All fountains shall be connected to sewer lines in accordance with City Code.
- 4.3.5 The incoming water lines shall have ball type shut-off valve located off the slab in an approved valve box. The valve body shall be of bronze or stainless steel. The interior parts shall be same type as the body.
- 4.3.6 The outgoing waste line shall have a minimum 2-inch "Y" type strainer installed and placed in an approved valve box off the slab. Strainer will be positioned to allow easy access to strainer opening.
- 4.3.7 Portable lines shall have a reduced pressure principal device (RPPD). Backflow prevention device shall be installed and secured down-station of the meter. Installation will conform to City Standards.
- 4.3.8 Drinking fountains are required near athletic court areas and restrooms.
- 4.3.9 Preferred models: Kay Park Number KP86WCFP. Color dark green.

4.4 Bicycle Racks

- 4.4.1 Bicycle racks should be located at entrances to major buildings. Other racks may be required for major facilities not in close proximity to buildings.

- 4.4.2 All bicycle racks shall be 2 3/8-inch tubular powder coated steel; Surface mounted.
- 4.4.3. Anchored with ITT Ramset/red head SRM 38 stainless steel drop-in anchor with appropriate size stainless steel hex head bolts, lock washer and 3/8-inch flat washer.
- 4.4.4 Preferred models: Kay Park Number 623CSM. Color dark green.

4.5 Baseball/Softball Equipment Preferred Models

- 4.5.1 Bat Rack: Tomark number 10979.
- 4.5.2 Player Benches: Deluxe player benches. 24 foot long aluminum bench with galvanized pedestals. Bench with back. Preferred model: Tomark number 10701.
- 4.5.3 Bases: Hollywood impact bases. Tomark number 10398.
- 4.5.4 First Base: Hollywood impact double first base Tomark number 10396.
- 4.5.5 Home Plate: Hollywood HPS home plate. Tomark number 10345.
- 4.5.6 Outfield Portable Fence: 42 inch high pvc, spring loaded white fence.
- 4.5.7 Pole Pads: Depends upon thickness of pole. Dark green color.
- 4.5.8 Spectator Seating: 15 foot long, 5 row aluminum bleachers with full width footboards and 4 inch horizontal bar guard rails. Preferred model: Kay Park BLA5AH4F4.
- 4.5.9 Pitchers rubber: Removable rubber. Tomark number 10378.
- 4.5.10 Pitchers Mound Cover: Dark Green. Tomark number 15272.
- 4.5.11 Outfield Fence Cap: Tomark number: 11132.
- 4.5.12 Fence windscreen. Poly windscreen. Tomark number 15250. Dark green color.
- 4.5.13 Foul poles: Tomark number: 10656. Powder coated yellow metal.

4.6 Basketball Equipment Preferred Models

- 4.6.1. Goals: 6 inch, powder coated square post. Steel 42 inch by 60 inch backboard. Preferred model: Bison, Tomark Number 30685.
- 4.6.2 Rims: Double 5/8" solid rim design with 3/16 inch by 1 inch continuous netlocks and 3/16 inch thick box design backplate. Lifetime warranty. Preferred model: Bison BA39U.
- 4.6.3. Pole Pads: Color dark green.
- 4.6.4 Nets: Outdoor polypropylene net. Preferred model: Tomark 30457.

4.7 Racquetball Court Doors

- 4.7.1 Door to the racquet ball court shall be: Metal; With expanded metal window flush with interior; With 4-5055 Hinges; Ring pool shall be flush and magnetic type; Door jam shall be filled with grout; Door closers shall be mounted on exterior and be heavy duty type that close the door flush; All interior items of door must be flush with the interior wall.

4.8 Roller Hockey Goals Preferred Model

- 4.8.1 The City does not have an established standard for this item. Please submit proposed model to Parks and Recreation Department for review.

4.9 Soccer Goals Preferred Model

- 4.9.1 Pro Premier Collegiate soccer goal Model 2B4 with optional back bottom bar Model I0B501

4.10 Tennis Equipment

- 4.10.1 Tennis equipment shall conform to the following requirements: Poles shall be 4 1/2-inch OD galvanized poles with reel, over the top pulley, and 2 fixed and 1 movable eye. Posts, reels, pulley, and eyes shall be galvanized; Ratchet shall have a hole drilled in it for

lock;

4.10.2 Windscreen shall be open mesh polypropylene, black, seamless, 9 feet high, with center tabs.

4.10.3 Preferred Models:

Poles: L.A. Steelcraft model #TP42ZT

Tennis nets: Edwards Sports Supreme model #2002

Tie down strap: Edwards Center Strap #2041

4.11 Volleyball Equipment

4.11.1 Parks that are supervised or where ratchet and pulley is desired: Posts shall be 4 1/2 " OD, capped, all game posts, hot dip galvanized with wheel and ratchet and side pulley; Wheel and ratchet shall be for 4 1/2" posts, hot dip galvanized with hole drilled in ratchet for lock; Side pulley shall be for 4 1/2" OD posts, hot dip galvanized; Net shall be 32 feet with cable on top and rope on bottom. Pole spacing shall accommodate a 32 feet net (approximately 36 to 36.5 feet apart);

Preferred Models:

Posts: L.A. Steelcraft #AGP-4

Wheel and Ratchet: L.A. Steelcraft #NRF-4

Side Pulley: L.A. Steelcraft #NPA-4

Net: West Coast #VNCR-32

4.11.2 Parks that are not supervised or where ratchet and pulley is not desired: Posts shall be 4 1/2" OD galvanized with 3 fixed eyes and rope clamps; Pole length should be sized to accommodate surfacing material;

Preferred Models:

Posts: L.A. Steelcraft #VPP-4PEL

Net: West Cost #VNRR-32.

4.12 Trash Receptacles

4.12.1 Preferred model: Litchfield Industries Model number 5936.

4.13 Restroom Fixtures Preferred Models

4.13.1 Hand Dryer: Bobrick — Model # B-7007 (110 Volt single phase)

- 4.13.2 Seat Cover Dispenser: Bobrick — Model # B-221
- 4.13.3 Liquid Soap Dispenser: Model # B-41 12
- 4.13.4 Toilet Tissue Holder: EXM-200D (2 roll) or EXM-300D (3 roll) manufactured by “Upbeat Inc.” or approved equal.
- 4.13.5 Water Closet: American Standard — Model # 2258.125, AFWall EL 1.6 back spud with Sloan Optima flushometer # 152-1.6 ES-S with Olsonite # 95 open front seatless cover (to meet ADA requirements).
- 4.13.6 Urinals: American Standard — Model # 6605.027, Lynbrook 1.0 GPF back spud with Sloan Optima flushometer # 190-I ES-S (to meet ADA requirements). Color: white.
- 4.13.7 Lavatory: American Standard — Model # 0476.028, 4” centers to accommodate faucets and include grid stainers.
- 4.13.8 Faucets: Chicago faucet — Model # 802A-665 (for use with hot and cold water supply) or 408A-665-CW (for use with cold water supply only), Chicago faucet — Model # 1013 angle stop with stainless steel braided supply line(s).
- 4.13.9 Toilet Compartments: Toilet compartments, doors, urinal/sight screens, etc. shall be floor mounted and overhead braced similar and equal to compartments manufactured by Santana Products Inc., or an approved equal.
- 4.13.10 Water Closet/Toilets: American Standards — Model # 2258.125, AFWall EL 1.6 back spud with Sloan Optima Flushometer # 152—1.6 ES-S with Olsonite #95 open front seatless cover (to meet ADA requirements).

4.14 Picnic Shelter Preferred Models

- 4.14.1 All Shelters will be mounted over a concrete slab and provide electrical and water utilities.
- 4.14.2 Size: 12 foot by 12 foot – neighborhood parks, 20 foot by 20 foot community parks.
- 4.14.3 Preferred models: Sutter Creek SSC1212, SSC 2020. Color: dark green.

4.15 Electrical and irrigation Standards for Public Projects

4.15.1 Tennis Courts

- 4.15.1.a. Tennis court fixtures: 1000MH-MT-FT-SF 2 3/8-5° DBZ - No substitutes
- 4.15.1.b. Tennis court light poles: SSR-5-25-TT 2 3/8-DBZ-SRO - No substitutes
- 4.15.1.c No tennis court switching controls on courts.
- 4.15.1.d Tennis court pole installation: Base plate of pole to be at grade level with 4" grout cap over bolts.

4.15.2 Walkways and General Park

- 4.15.2.a Walkway and general park fixture specifications see Illustration Section.
- 4.15.2.b Walkway lights operated by photocell located in panel.

4.16 Picnic Shelter and Exterior Building

- 4.16.1. Exterior of building, picnic shelter or shade structure light fixtures: Model - STONCO #WPM1SOLX-8 - No substitutes

4.17 Sign lights

- 4.17.1 See Illustration Section.

4.18 Play Area

- 4.18.1 See specification in Illustration Section.

4.19 Building Electric

- 4.19.1 Electric Hand Dryer: Model #HD-03; Manufacturer: Fast-Aire or Bobrick #701

4.20 Restroom Lighting

- 4.20.1 Lighting in restrooms to be controlled by Occupancy Sensors, Time Clock, or Photocell.

4.21 Underground Wires

- 4.21.1 All underground wires to be megger tested using the standards provided.
- 4.21.2 All wires to be copper THHN/THWN stranded only

4.22 Outlets

- 4.22.1 GFI outlets to be installed in tennis courts, picnic shelters, dugouts, basketball courts, volleyball courts, at each end of soccer fields, and behind home plate, in all batting cages. All dedicated circuits.
- 4.22.2 GFI outlet covers to be TYPE — BWF #FGV-I DCV

4.23 Controls

- 4.23.1 Photo cells to be Precision #ST-15 or Intermatic #K4221C, with maintenance by-pass switch. Photo cells to operate lighting contactors.
- 4.23.2 Time Clock to be Intennatic #ET7I6CK or INTERMATIC #ET1O4C.

4.24 Contactors

- 4.24.1 All lighting to be fed through lighting contactors.
- 4.24.2 Approved lighting contactor; GE, Allen Bradly, Cutler Hammer, Square D.
- 4.24.3 Approved Motor Control contactors, same as listed above

4.25 Inground Lights

- 4.25.1 No inground lights are acceptable.

4.26 Conduits

- 4.26.1 Provide (2) 2" or (4)1" spare conduits to concrete PB exterior of building for future access to main panel
- 4.26.2 Provide (4)1" spare conduits out of meter pedestal.
- 4.26.3 Any exposed conduits to be rigid conduit and painted to match
- 4.26.4 Underground control to exposed conduits to be Sch 80 PVC to approximately 12" above grade.
- 4.26.5 All pull boxes to be concrete locking type and stamped "ELECTRIC" on covers. Pull boxes to be set on 3/4" rock. No concrete slurry in bottom of boxes
- 4.26.6 Underground conduit to be schedule 40 PVC.

4.27 Splices

- 4.27.1 All splices to be with shrink connectors.

4.28 Scoreboards

- 4.28.1 Provide (2) conduits for scoreboards at each baseball field; (1) conduit for electrical and (1) for signal or communication.

4.29 Athletic Field Security Lights

- 4.29.1 Provide security lights on all baseball fields near dugouts operated by photocell located in panel

4.30 Parking Lot Fixtures

- 4.30.1 Parking lot fixtures not to exceed 28' high operated by photocell located in panel
- 4.30.2 Parking lot footing grout cap to match post light detail.

- 4.30.3 Parking lit fixtures: ECHO LIGHTING #EVL-400HPS-MT-V OR III - TGL-SF3-DBZ

4.31 Meter Pedestals

- 4.31.1 Stainless steel electric meter pedestal to have vandal resistant locking device.

4.32 Switch Gear

- 4.32.1 Switch gear distribution panels to be installed a minimum of 3" above grade.
- 4.32.2 Switch gear distribution concrete pad to extend 36" in front of panel doors and 1.0" on each side and back of panel.

4.33 Irrigation

- 4.33.1 Irrigation to distribute water away from electrical panels and paths of travel.
- 4.33.2 All turf areas to be irrigated using pop-up heads. Hunter preferred brand. Planting beds to be irrigated using drip system.
- 4.33.3 Irrigation to utilize electronic control clocks located inside buildings when possible, or lockable, vandal resistant pedestals.
- 4.33.4 Irrigation "As Built" plans will be provided to the City for all parks dedicated to the city.
- 4.33.5 Irrigation to utilize wireless rain sensor with quick response feature to shut system off immediately upon rain events.

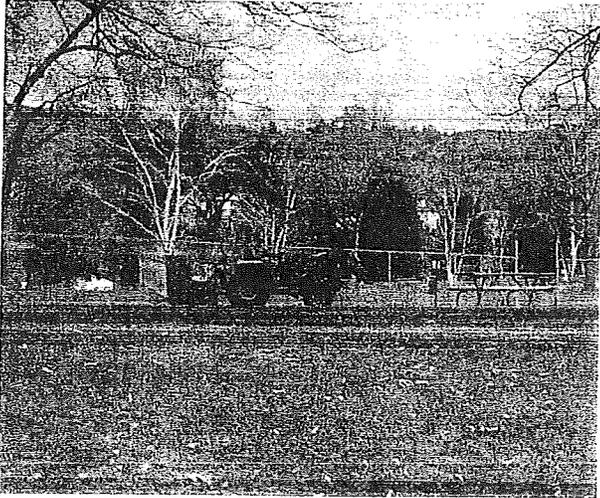
4.34 Megger Test

- 4.34.1 All wiring shall be installed in a method to assure that upon completion, the system is free from short-circuits and grounds (other than required grounds).
- 4.34.2. The Contractor shall provide a megger insulation test which applies a minimum of 500 volts direct current. Each wiring system installed by the Contractor shall meet the minimum requirements

for insulation resistance. The test shall be performed after wiring has been installed into the conduit, is a continuous run from pull box to pull box and has been properly spliced (but, prior to splicing wires from fuse holders and light fixtures

4.35 Marina Docks

- 4.35.1** EZ Docks or equal to be used.
- 4.35.2** Fixed docks to have concrete pilings and deck surface.



**Chapter 5:
FACILITY MAINTENANCE
GUIDLINES**

5.0 Facility Maintenance Guidelines

The following are seven standardized modes of parks open space, trail and natural area maintenance. Golf Course maintenance is not included within these standards. The guidelines are categorized by the function of general area types. The modes were derived from maintenance guidelines developed over a period of years by the American Parks and Recreation Society, National Recreation and Park Association and local cities and towns and adapted to fit the needs of the City of Chelan Parks and Recreation Department. The listed guidelines are general in character. Specific maintenance plans for areas will be developed as the properties are acquired and made available for public use.

5.1 Mode 1

State of the art maintenance applied to a high quality diverse landscape. Usually associated with high traffic urban areas such as public squares, malls, governmental grounds or high visitation parks.

5.1.1 Turf Care

Grass height maintained according to species, variety of grass and use. Mowed at least once every five working days but may be as often as once every three working days. Aeration and top dressing as required, but not less than four times per year. Reseeding or sodding as needed. Weed control methods should allow no more than one percent of the surface area to contain weeds.

5.1.2 Fertilizer

Adequate fertilization applied to plant species according to their optimum requirements. Application rates and times should ensure an even supply of nutrients for the entire year. Nitrogen, phosphorus and potassium percentages should follow recommendations based on soil tests and the county extension service. Trees, shrubs and flowers should be fertilized according to their individual requirements of nutrients for optimum growth. Unusually long or short growing seasons may modify the applications slightly.

5.1.3 Irrigation

Sprinkler irrigated. Automatic commonly used. Some manual systems could be considered adequate under plentiful rainfall circumstances and adequate staffing. Frequency of use follows

rainfall, temperature, soil conditions, seasonal length and demands of plant material.

5.1.4 Litter Control

Minimum of once per day, seven days per week. Extremely high visitation may increase the frequency. Receptacles should be plentiful enough to hold all trash generated between servicing without overflowing.

5.1.5 Pruning

Frequency dictated primarily by species and variety of plant material. Length of growing season and design concept also a controlling factor (clipped hedges versus natural style). Timing usually scheduled to coincide with low demand periods or to take advantage of special growing characteristics such as pruning after flowering.

5.1.6 Disease/Insect Control

Control program may use the following methods: Preventative - a scheduled chemical or cultural program designed to prevent significant damage; Corrective - application of chemical or mechanical controls designed to eliminate observed problems or Integrated pest management - withholding any controls until such time as pests demonstrate damage to plant material or become a demonstrated irritant in the case of flies, mosquitoes, gnats etc. At this maintenance level, the controlling objective is to not have the public notice any problems. It is anticipated that problems will either be prevented or observed at a very early stage and corrected immediately.

5.1.7 Snow Removal

Snow removal starts the same day as accumulations of one half inch are present. At no time will snow be permitted to cover transportation or parking surfaces longer than noon of the day after the snow stops. Applications of snow melting compound and/or gravel are appropriate to reduce danger of injury due to falls.

5.1.8 Lighting

Maintenance should preserve the original design. Damaged systems should be repaired as quickly as they are discovered. Bulb replacement should be done during the first working day after the outage is reported.

5.1.9 Surfaces

Sweeping, cleaning and washing of surfaces needs to be done so

that at no time does an accumulation of sand, dirt and leaves distract from the looks or safety of the area. Repainting or restaining of structures should occur when weather or wear deteriorate the appearance of the covering. Wood surfaces requiring oiling should be done a minimum of four times per year. Stains to surfaces should be taken off within five working days. Graffiti should be washed off or painted over the next working day after application.

5.1.10 Repairs

Repairs to all elements of the design should be done immediately upon discovery provided replacement parts and technicians are available to accomplish the job. When disruption to the public might be major and the repair not critical, repairs may be postponed to a time period that is less disruptive.

5.1.11 Inspection

Inspections should be completed and documented on a daily basis by a staff member.

5.1.12 Floral Plantings

Normally extensive or unusual floral plantings are part of the design. These may include ground level beds, planters or hanging baskets. Often multiple plantings are scheduled, usually at least two blooming cycles per year. Some designs may call for a more frequent rotation of bloom. Maximum care of watering, fertilizing disease control, disbudding and weeding is necessary. Weeding flowers and shrubs is done a minimum of once per week so the area is weed free.

5.1.13 Rest Rooms

Not always part of the design, but where required, will normally receive no less than one servicing per day. Especially high traffic areas may require multiple servicing or an assigned attendant.

5.1.14 Special Features

Features such as fountains, drinking fountains, sculptures, speaker systems, structural art, flag poles, or parking and crowd control devices may be part of the integral design. Maintenance requirements can vary drastically but should be of the highest possible order.

5.2 Mode 2

High-level maintenance associated with well-developed park areas with reasonably high visitation.

5.2.1 Turf Care

Turf mowed once every five working days. Aeration and top dressing as required, but not less than two times per year. Reseeding or sodding when bare spots are present. Weed control practiced when weeds present visible problem or when weeds represent five percent of the area surface. Some pre-emergent products may be utilized at this level.

5.2.2 Fertilizer

Adequate fertilizer level to ensure that all plant materials are healthy and growing vigorously. Amounts depend on species, growing season, soils and rainfall. Application rates should be the lowest recommended. Distribution should ensure an even supply of nutrients for the entire year. Nitrogen, phosphorus and potassium percentage should follow recommendations from a soil analysis and county extension service. Trees, shrubs and flowers should receive fertilizer levels to ensure optimum growth.

5.2.3 Irrigation

Some type of irrigation system available. Frequency of use follows rainfall, temperature, soil conditions and demands of plant material.

5.2.4 Litter Control

Minimum of once per day, five days per week. Off site movement of trash depends on size of containers and use by the public. High use may dictate once per day cleaning or more. Containers are serviced.

5.2.5 Pruning

Usually completed at least once per season unless species planted dictates more frequent attention. Sculptured hedges or high growth species may dictate a more frequent requirement than most trees and shrubs in natural growth style plantings.

5.2.6 Disease/Insect Control

Usually completed when disease or insects are inflicting noticeable damage, reducing vigor of plant materials or could be considered a bother to the public. Some preventive measures may be utilized such as systemic chemical treatments. Cultural prevention of disease problems can reduce time spent in this category. Some

minor problems may be tolerated at this level.

5.2.7 Snow Removal

Snow removal to be completed by noon the day following the snowfall. Gravel or snowmelt may be utilized to reduce ice accumulation.

5.2.8 Lighting

Replacement or repair of fixtures when observed or reported as not working.

5.2.9 Surfaces

Should be cleaned, repaired, repainted or replaced when appearance has notably deteriorated.

5.2.10 Repairs

Should be completed whenever safety, function or appearance is in question.

5.2.11 Inspection

Inspection and documentation by a staff member at least once per day when regular staff is scheduled.

5.2.12 Floral Plantings

Some sort of floral planting present. Normally no more complex than two rotations of bloom per year. Care cycle usually at least once per week except watering may be more frequent. Health and vigor dictate cycle of fertilization and disease control. Beds essentially maintained weed free.

5.2.13 Rest Rooms

When present, should be maintained at least once per day as long as they are open to the public. High use may dictate two servicings or more per day. Servicing period should ensure an adequate supply of paper and that restrooms are reasonably clean and free from offensive odors.

5.2.14 Special Features

Should be maintained for safety, function and high quality appearance as per established design.

5.3 Mode 3

Moderate level of maintenance associated with locations with

moderate to low levels of development, moderate to low levels of visitation or because of budget restrictions higher levels of maintenance can not be accomplished.

5.3.1 Turf Care

Mowed once every ten working days. Normally not aerated unless turf quality indicates a need or in anticipation of an application of fertilizer. Reseeding or resodding done only when major bare spots appear. Weed control measures normally used when fifty percent of small areas are weed infested or general turf quality is low in fifteen percent or more of the surface area.

5.3.2 Fertilizer

Applied only when turf vigor seems to be low. Low level application done on a once per year basis. The suggested application rate is one half the level recommended for species and variety.

5.3.3 Irrigation

Use of portable or automatic irrigation only during times of drought. Servicing is once per week.

5.3.4 Litter Control

Minimum service of two to three times per week. High use may dictate higher levels during peak seasons.

5.3.5 Pruning

When required for health or reasonable appearance. With most tree and shrub species this would not be more frequent than once every two years.

5.3.6 Disease/Insect Control

Completed only on epidemic or serious complaint basis. Control measures may be put into effect when the health or survival of the plant material is threatened or where the public's comfort is concerned.

5.3.7 Snow Removal

Snow removal is to be accomplished the day following the snowfall. Some crosswalks or surfaces may not be cleared at all.

5.3.8 Lighting

Replacement or repair of fixtures when a report is filed or when it is noticed by employees.

5.3.9 Surfaces

Cleaned on a complaint basis. Repaired or replaced as budget allows.

5.3.10 Repairs

Should be completed whenever safety or function is in question.

5.3.11 Inspection

Documented inspections once per week.

5.3.12 Floral Plantings

Only perennials or flowering trees or shrubs.

5.3.13 Rest Rooms

When present, serviced a minimum of five times per week. Seldom more than once per day.

5.3.14 Special Features

Minimum allowable maintenance for features for function and safety.

5.4 Mode 4

Moderately low level of maintenance, usually associated with low level of development, low visitation, undeveloped areas or remote parks

5.4.1 Turf Care

Low frequency mowing schedule based on species. Low growing grasses may not be mowed. High grasses may receive periodic mowing to aid in public use or reduce fire danger. Weed control limited to legal requirements of noxious weeds.

5.4.2 Fertilizer

Not fertilized.

5.4.3 Irrigation

Not irrigated.

5.4.4 Litter Control

Once per week or less. Complaint may increase level above once servicing.

- 5.4.5 Pruning**
No regular trimming. Safety or damage from weather may dictate actual work schedule.
- 5.4.6 Disease/Insect Control**
None except where epidemic condition threatens resource or public.
- 5.4.7 Snow Removal**
None except where major access ways or active parking areas dictates the need for removal.
- 5.4.8 Lighting**
Replacement on complaint or employee discovery.
- 5.4.9 Surfaces**
Replace or repaired when safety is a concern.
- 5.4.10 Repairs**
Should be done when safety or function is in question.
- 5.4.11 Inspection**
Documented inspection once per month.
- 5.4.12 Floral Plantings**
None. May have naturally occurring wildflowers, perennials, flowering trees or shrubs in place.
- 5.4.13 Rest Rooms**
When present, serviced five times per week.
- 5.4.14 Special Features**
Minimum maintenance to allow safe use.

5.5 Mode 5

High visitation natural areas usually associated with large urban or regional parks. Size and visitation frequency may dictate resident maintenance staff. Road, pathway or trail systems relatively well developed. Other facilities at strategic locations such as entries, trail heads, building complexes and parking lots.

- 5.5.1 Turf Care**
Normally not mowed, but grassed parking lots, approaches to

buildings or road shoulders, may be cut to reduce fire danger.
Weed control on noxious weeds.

- 5.5.2 Fertilizer**
Not fertilized.
- 5.5.3 Irrigation**
Not irrigated.
- 5.5.4 Litter Control**
Based visitation, may be more than once per day if crowds dictate that level.
- 5.5.5 Pruning**
Only done for safety.
- 5.5.6 Disease/Insect Control**
Done only to ensure safety or when problem seriously discourages public use.
- 5.5.7 Snow Removal**
One day service on roads and parking areas.
- 5.5.8 Lighting**
Replaced on complaint or when noticed by employees.
- 5.5.9 Surfaces**
Cleaned on complaint. Repaired or replaced when budget permits.
- 5.5.10 Repairs**
Completed when safety or function impaired. Should have same year service on poor appearance.
- 5.5.11 Inspection**
Once per day and documented when staff is available.
- 5.5.12 Floral Plantings**
Not introduced except at special locations such as interpretive buildings, headquarters etc. Once per week service on these designs. Flowering trees and shrubs, wildflowers, present but demand no regular maintenance.
- 5.5.13 Rest Rooms**
Service frequency geared to visitor level. Once per day is the

common routine but for some locations and reasons frequency may be more often.

5.5.14 Special Features

Repaired whenever safety or function are a concern. Appearance corrected in the current budget year.

5.6 Mode 6

The minimum maintenance level for low visitation natural areas or large urban parks that are undeveloped.

5.6.1 Turf Care

Not mowed. Weed control only if legal requirements demand it.

5.6.2 Fertilizer

Not fertilized.

5.6.3 Irrigation

Not irrigated.

5.6.4 Litter Control

On demand or complaint basis.

5.6.5 Pruning

No pruning unless safety is involved.

5.6.6 Disease/Insect Control

No control except in epidemic or safety situations.

5.6.7 Snow Removal

Snow removal only on strategic roads and parking lots. Accomplished within two days after snow stops.

5.6.8 Lighting

Replacement on complaint basis.

5.6.9 Surfaces

Serviced when safety is consideration.

5.6.10 Repairs

Should be done when safety or function is in question.

5.6.11 Inspection

Documented once per month inspections.

5.6.12 Floral Plantings

None.

5.6.13 Rest Rooms

Service based on need.

5.6.14 Special Features

Service based on lowest acceptable frequency for feature. Safety and function interruption a concern when either seems significant.

5.7 Mode 7

The intent of these maintenance standards is to maintain the trails to their design standards, for public safety, and for meeting ADA access requirements.

5.7.1 The clear one (1) foot minimum clear zone on either side of the tread will be mowed a minimum of three (3) times per year. Nominally, mowing will be done once per month in June, July or August, and in September. Mowing times should be chosen to maximize weed control.

5.7.2 Gravel tread surfaces will be reconditioned a minimum of once annually to reincorporate loose surface gravel, to uproot vegetation growing in the tread as an alternative to chemical control, to reshape the tread surface for drainage, and to re-grade and re-compact the tread surface for ADA access and public safety.

5.7.3 Noxious weed control in the trail corridors will be by hand pulling, cutting, burning or biological control. Chemical control will be used only as the last resort.

5.7.4 Trails will be inspected at least quarterly to insure timely maintenance of the tread surface, erosion controls, signage, fencing, drainage, and of any structural features such as benches, bridges, etc. Inspections should be made at critical times of the seasons, such as during thaws or heavy runoff periods.

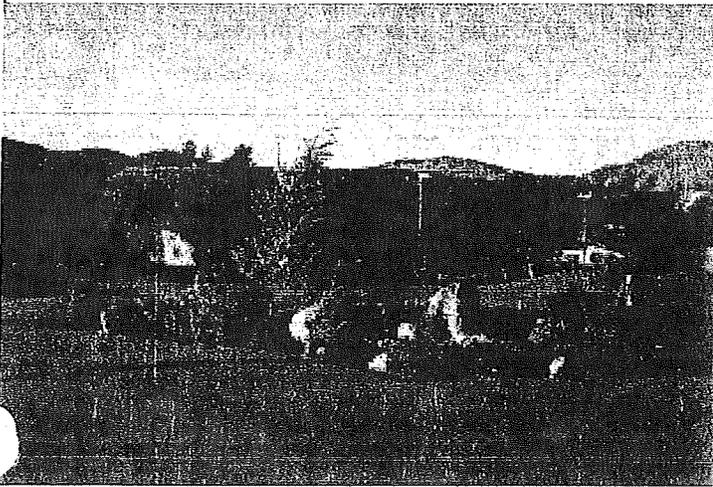
5.7.5 Trails with paved surfaces will be swept or blown as needed to keep the trail surface clear of debris.

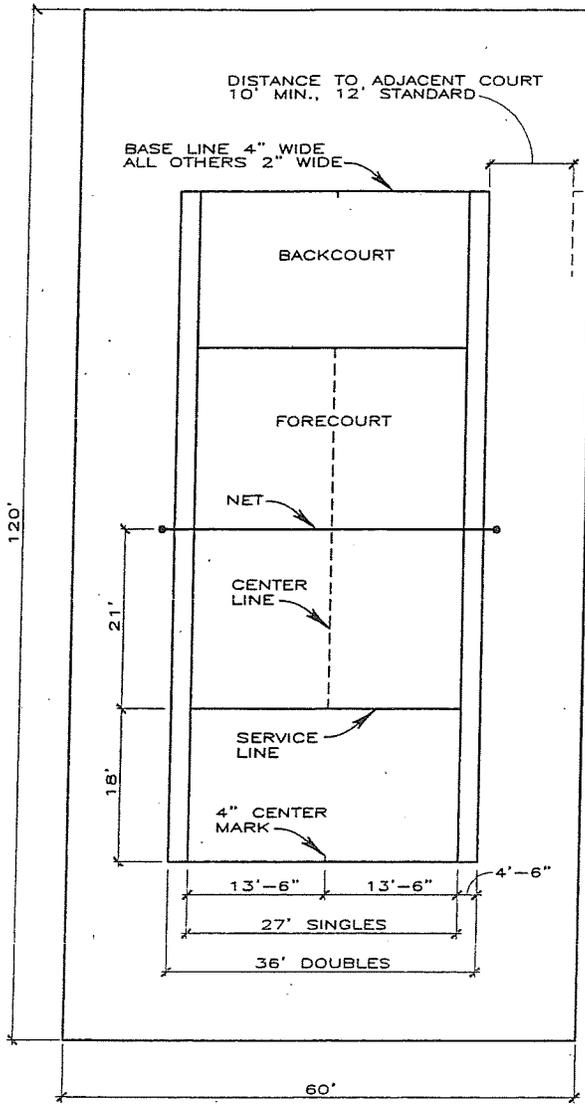
5.7.6 Vegetation growing in the tread or overhanging the edge of the tread will be cut or mowed twice per year at times determined to be the most beneficial for safe passage of the public.

5.7.7 Tread that has been surfaced with particulate materials (i.e. gravel, wood chips) will be reconditioned by replenishing the surface material and by raking as needed.

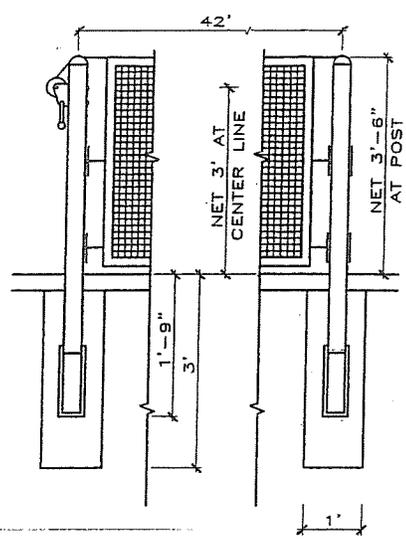
5.7.8 Erosion controls will be maintained in an effective condition.

**Appendix A:
ILLUSTRATIONS**

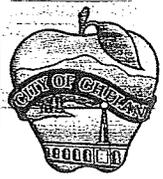




TENNIS COURT



TENNIS POSTS

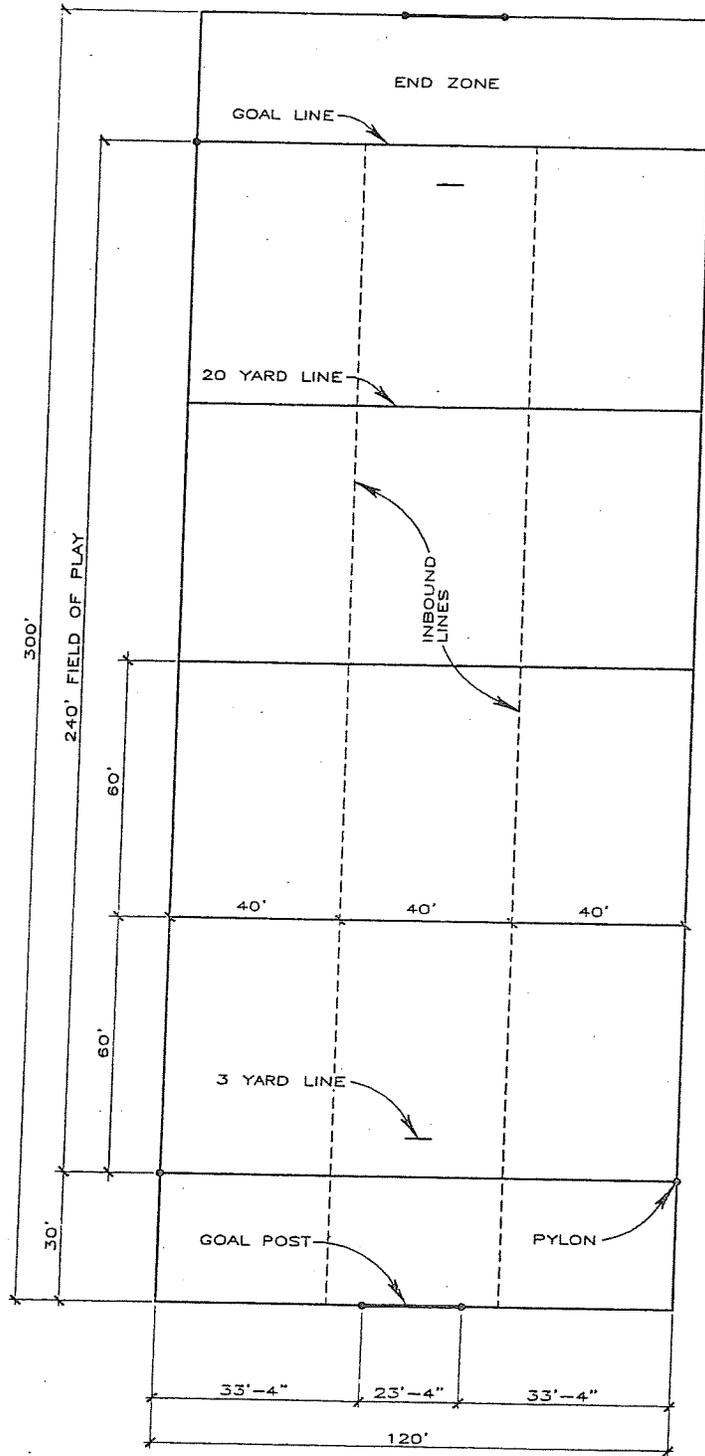


City of Chelan
Parks and Recreation

Tennis Court

100

Revision Date:
March 2007

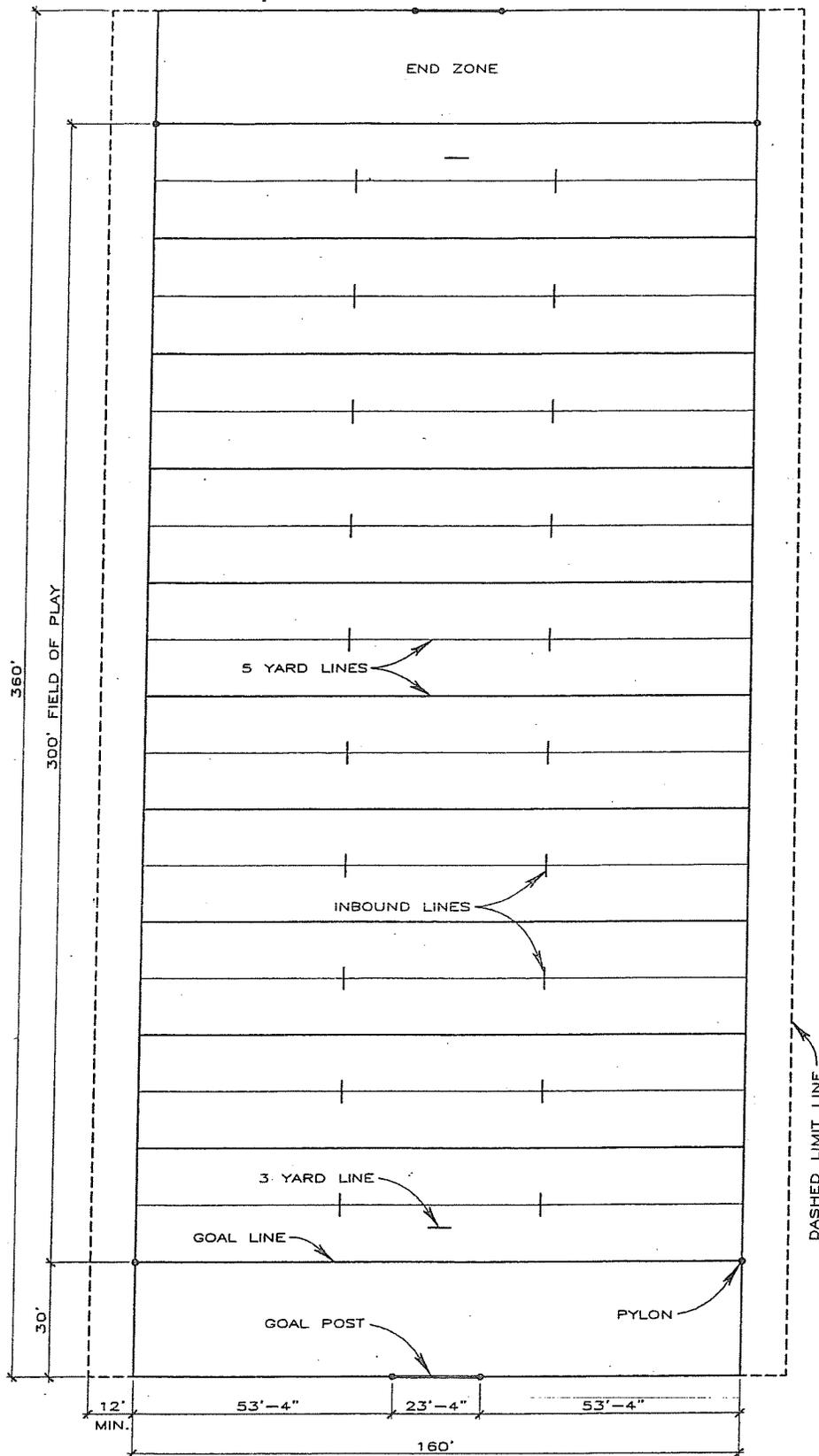


City of Chelan
Parks and Recreation

Flag Football Field

101

Revision Date:
March 2007

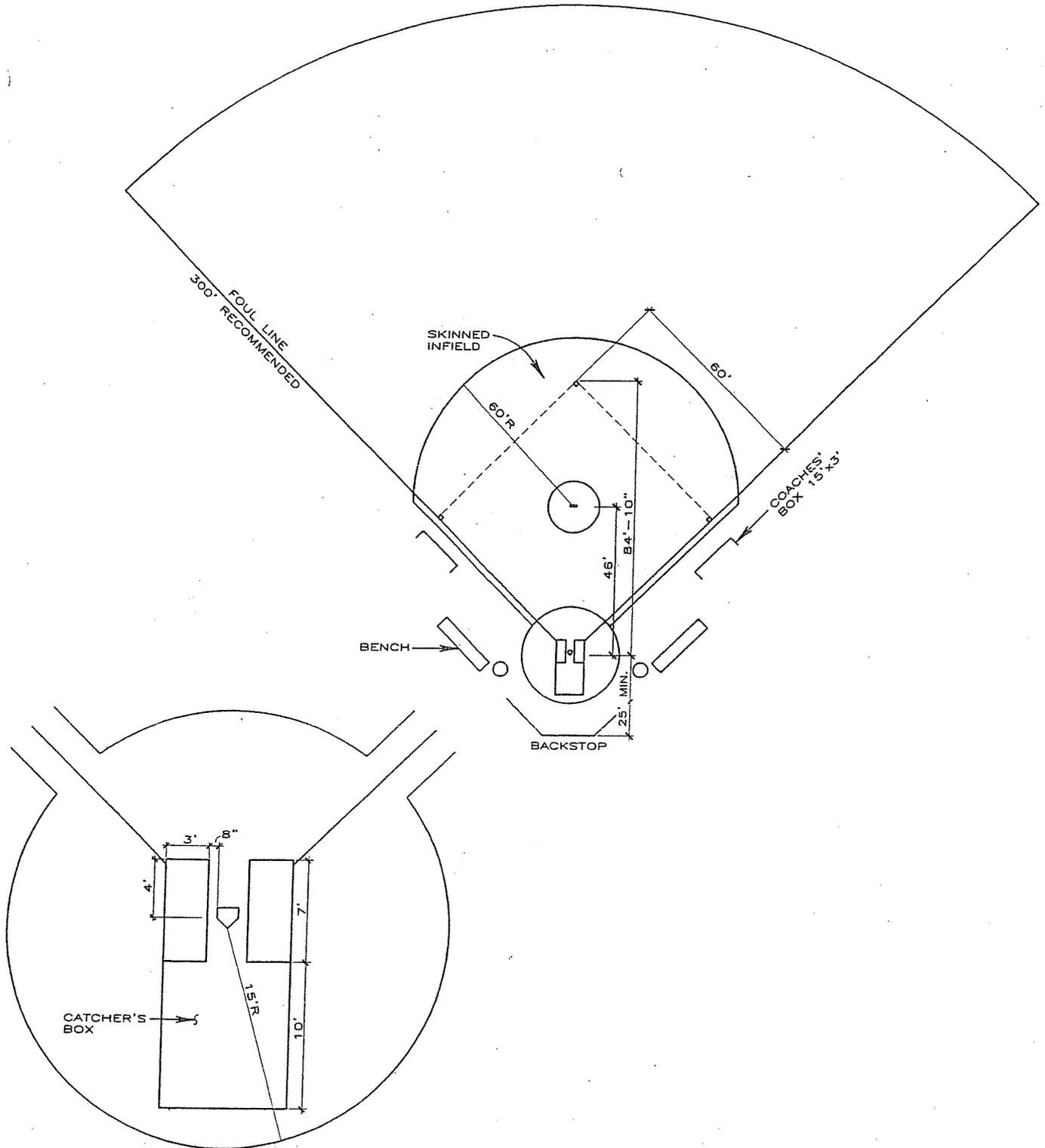


City of Chelan
Parks and Recreation

Football Field

102

Revision Date:
March 2007



DETAIL OF HOME PLATE

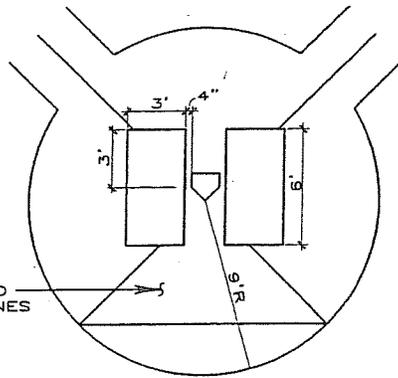
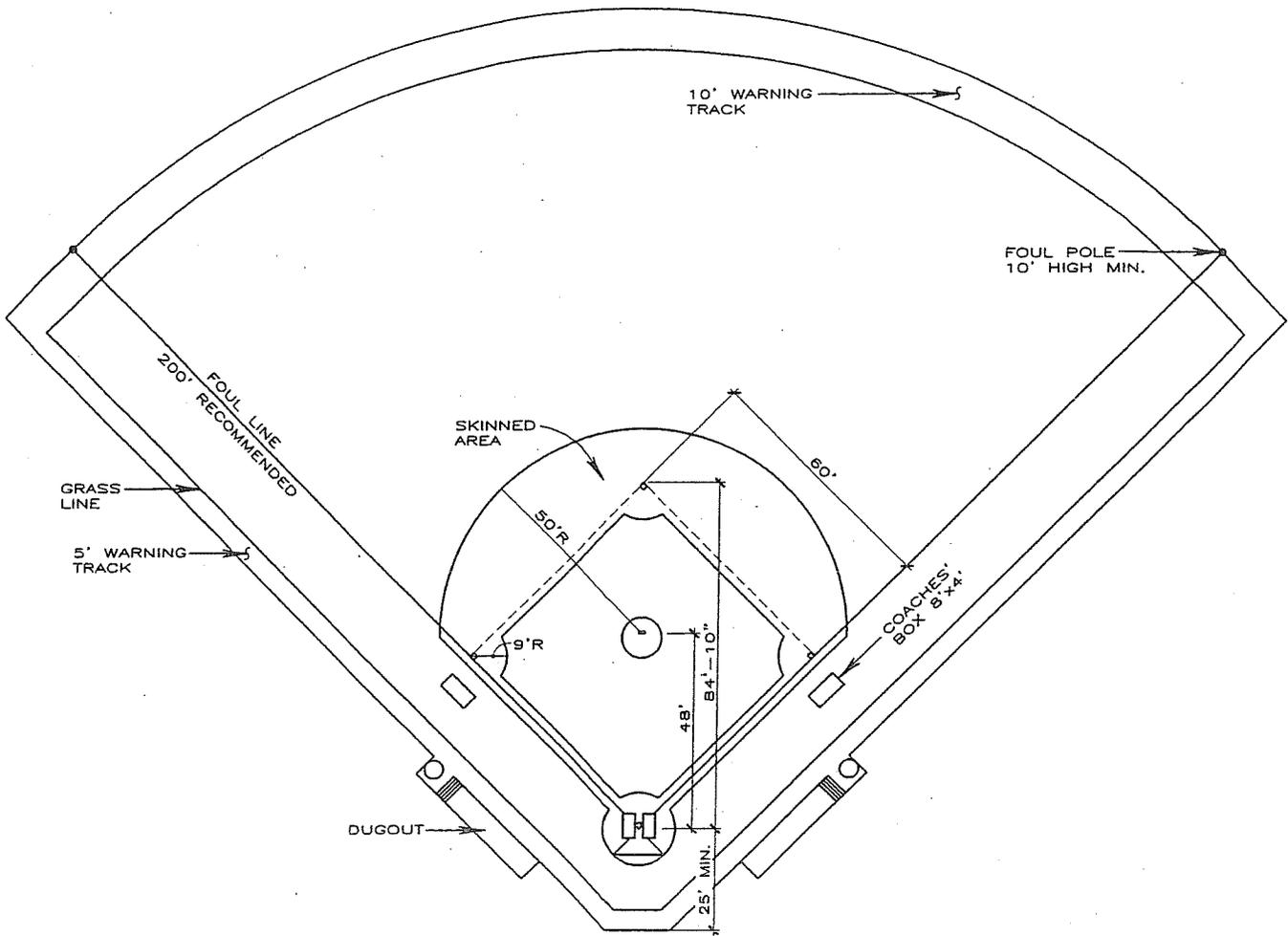


City of Chelan
Parks and Recreation

Softball Field

103

Revision Date:
March 2007



CATCHER'S BOX FORMED BY EXTENDING FOUL LINES BEHIND HOME PLATE

DETAIL OF HOME PLATE

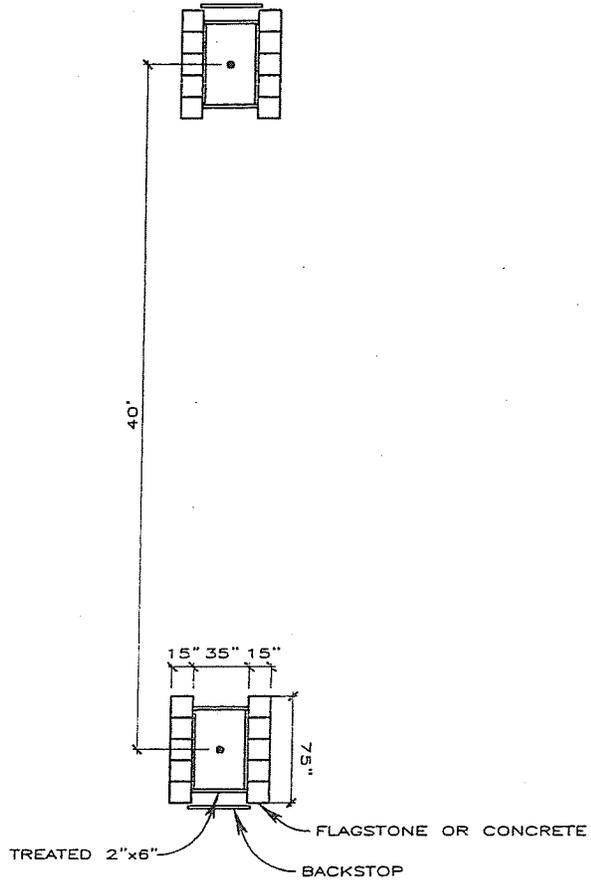


City of Chelan
Parks and Recreation

Little League Baseball Field

104

Revision Date:
March 2007

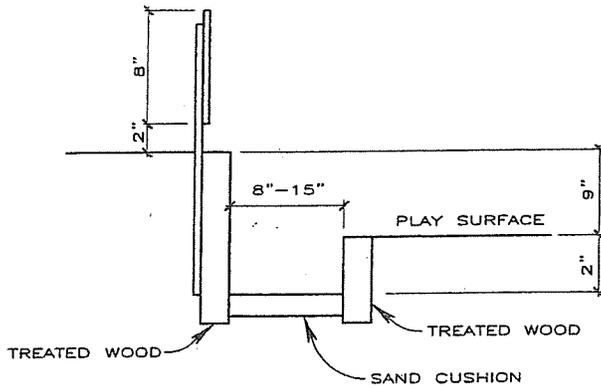
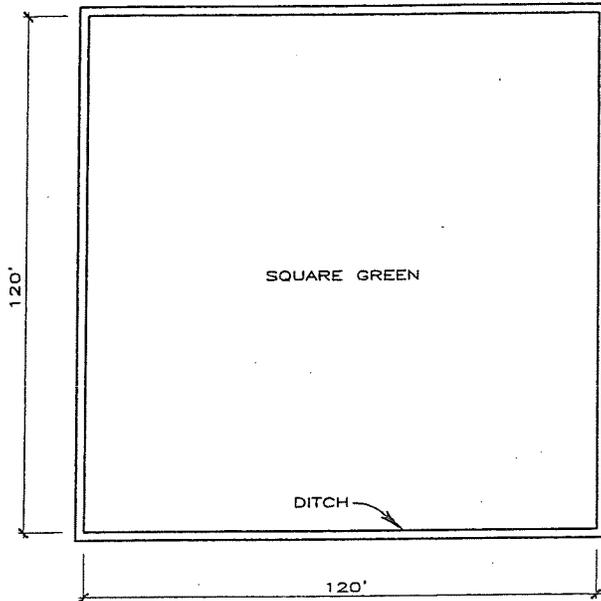


City of Chelan
Parks and Recreation

Horseshoe Pits

105

Revision Date:
March 2007



LAWN BOWLING DITCH

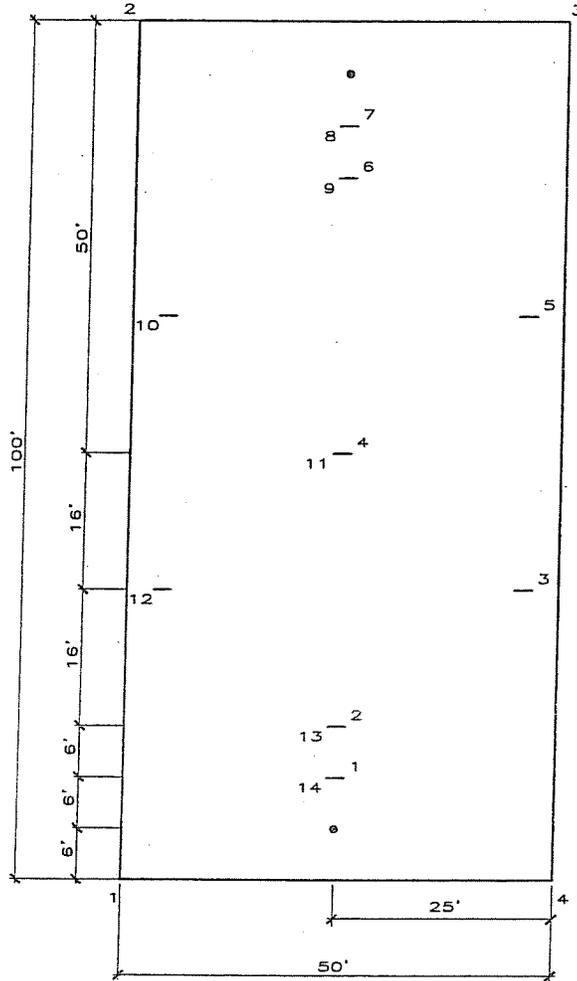


City of Chelan
Parks and Recreation

Lawn Bowling

106

Revision Date:
March 2007

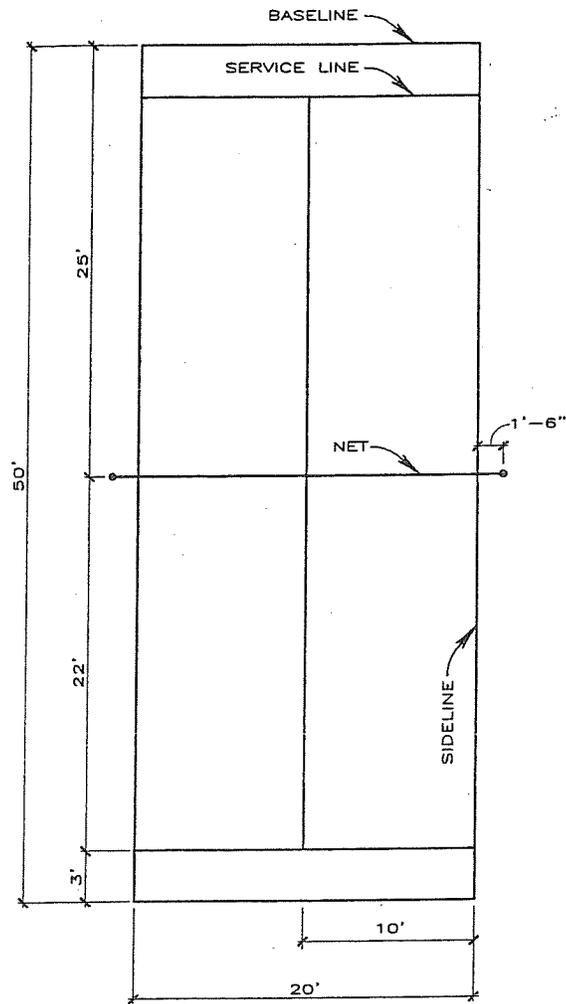


City of Chelan
Parks and Recreation

Croquet

107

Revision Date:
March 2007

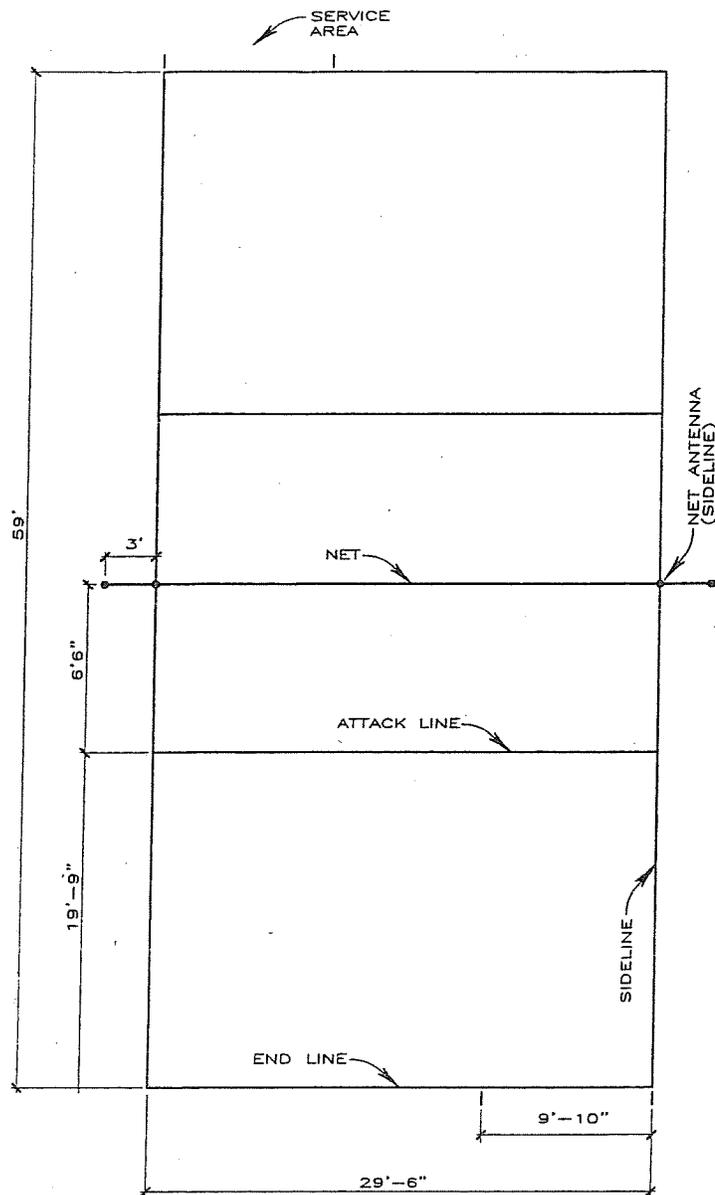


City of Chelan
Parks and Recreation

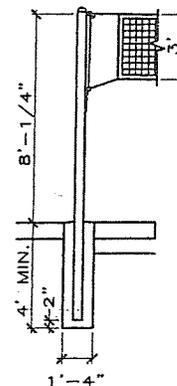
Paddle Tennis

108

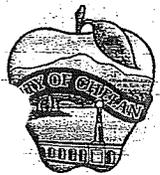
Revision Date:
March 2007



VOLLEYBALL COURT



VOLLEYBALL POLE

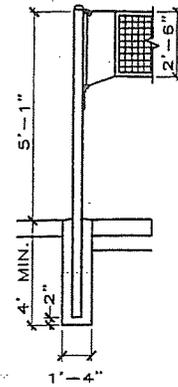
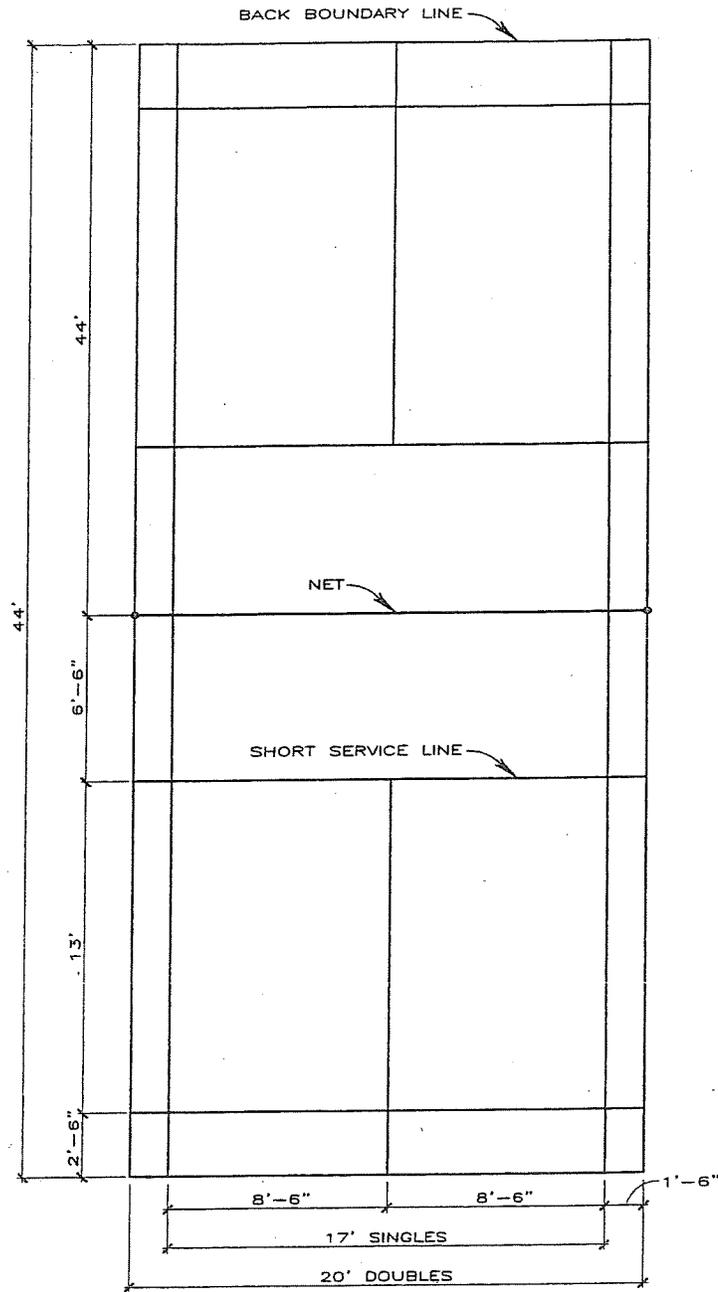


City of Chelan
Parks and Recreation

Volleyball

109

Revision Date:
March 2007



BADMINTON POLE

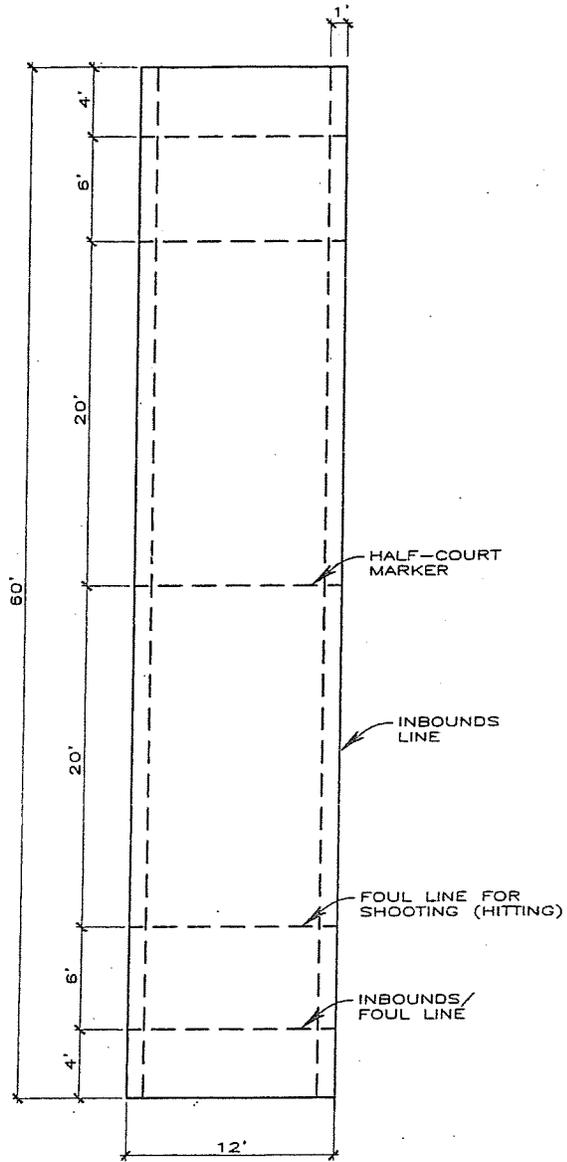


City of Chelan
Parks and Recreation

Badminton

110

Revision Date:
March 2007

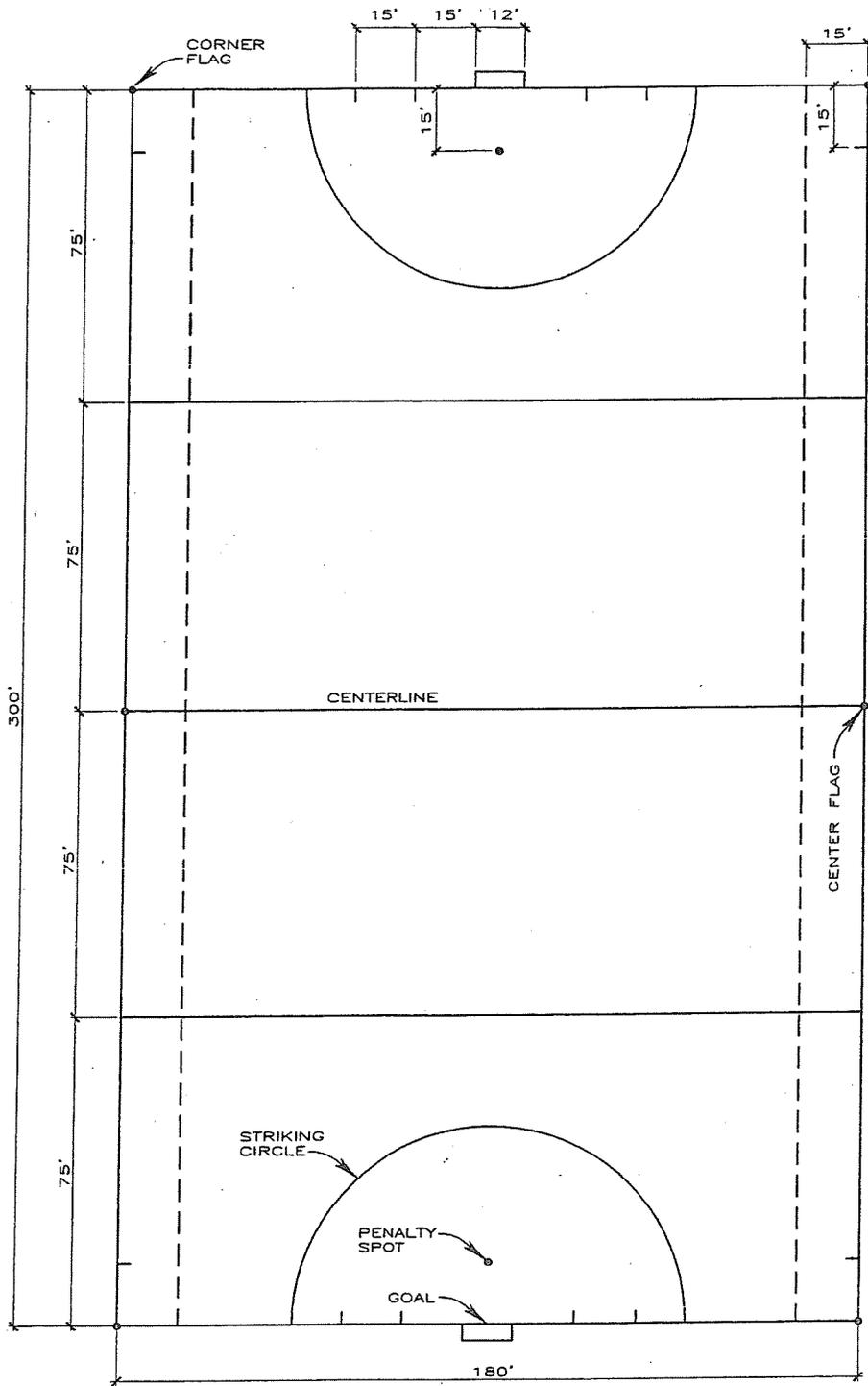


City of Chelan
Parks and Recreation

Bocce Ball

111

Revision Date:
March 2007

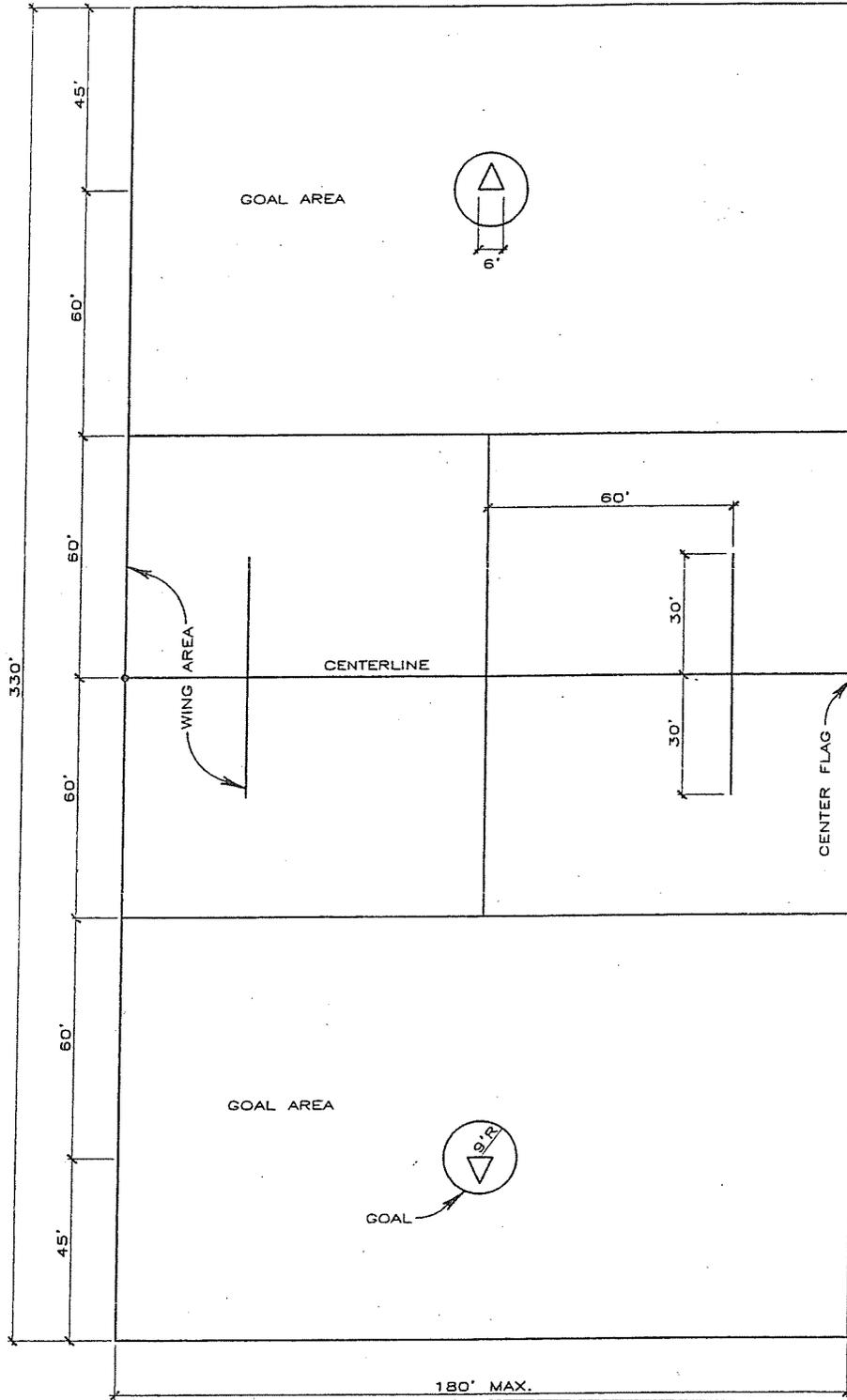


City of Chelan
Parks and Recreation

Field Hockey

112

Revision Date:
March 2007

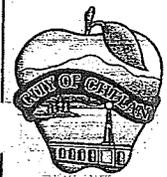
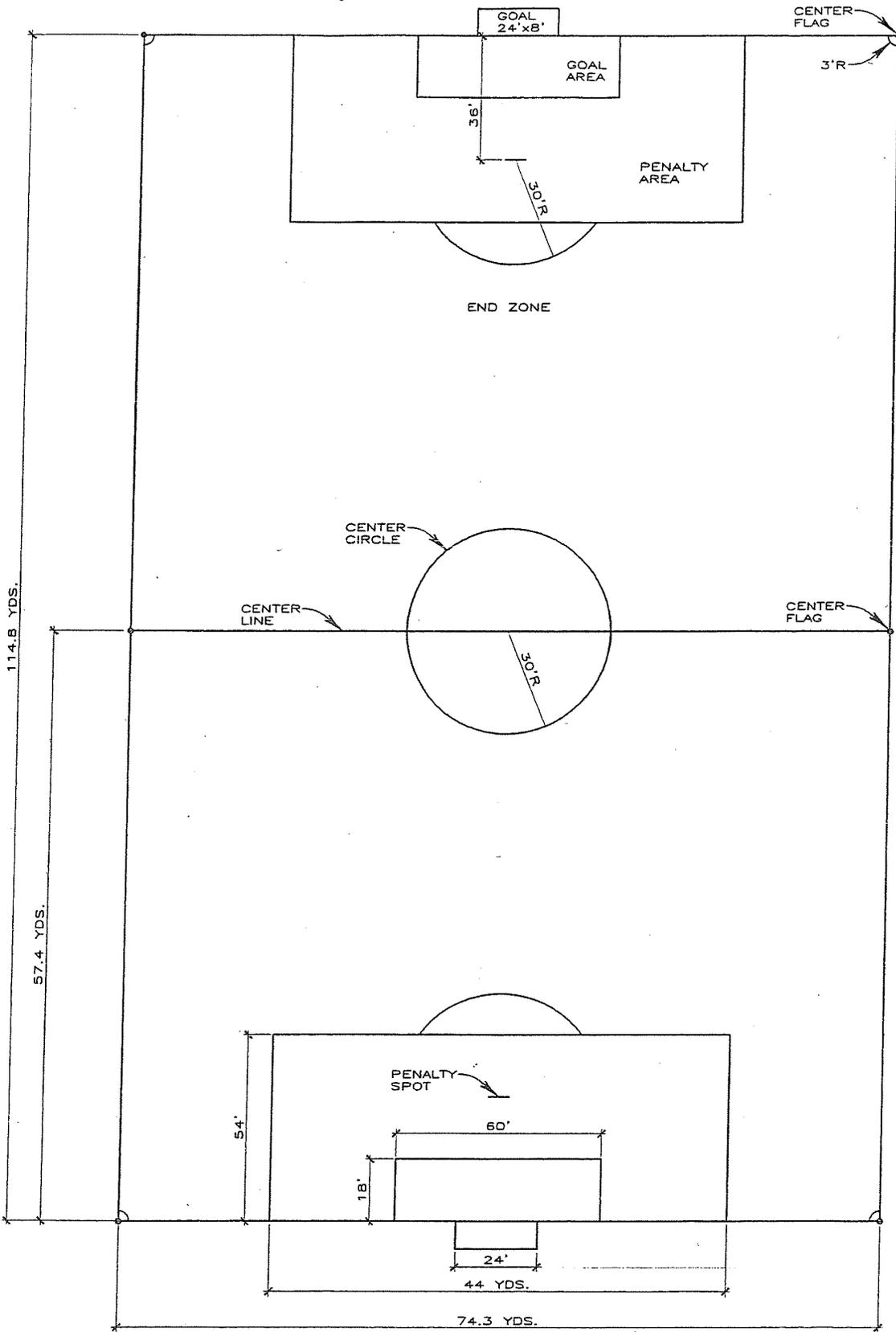


City of Chelan
Parks and Recreation

Lacrosse Field

113

Revision Date:
March 2007

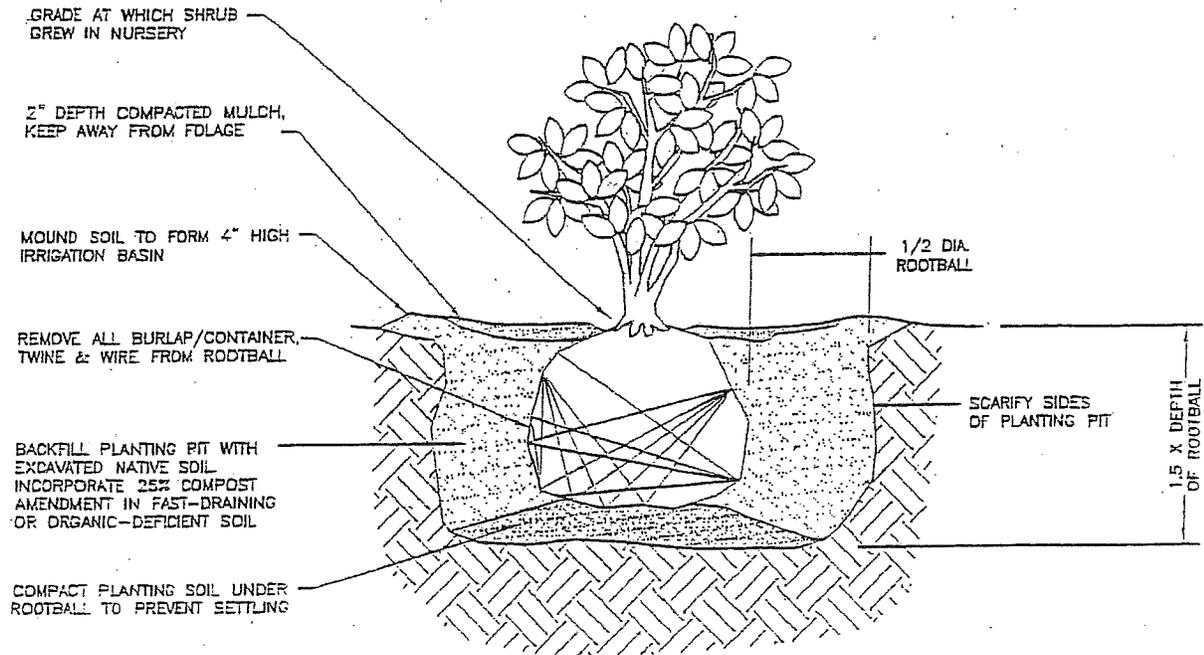


City of Chelan
Parks and Recreation

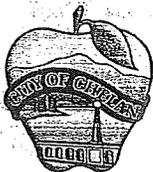
Soccer Field

114

Revision Date:
March 2007



NOTE: CONDUCT SHRUB PIT DRAINAGE TEST IN THE PRESENCE OF CITY INSPECTOR PRIOR TO PLANTING



City of Chelan
Parks and Recreation

Shrub Planting

200

Revision Date:
March 2007

TREE MUST BE IN GOOD HEALTH AND FORM AND CONFORM TO WSDA STANDARDS OR TREE WILL BE REJECTED ON SITE

PRUNE ONLY AS DIRECTED

PLANT 1-1/2" ABOVE GRADE AT WHICH TREE GREW AT NURSERY

TREE GRATE AS REQUIRED, SIZE VARIES GRATE TO COMPLY w/TITLE 24 REGARDING ACCESSIBILITY

PEA GRAVEL

TYPICAL IRRIGATION RISER PLACEMENT OR WATERING TUBES

CONCRETE CURB

18" DEEP ROOT BARRIER # AS REQUIRED

GALV. TURNBUCKLE w/EYE ENDS, TIGHTEN AFTER TREE PLACEMENT

1/2" RUBBER HOSE OVER 10 GA. WIRE, PROVIDE POSITIVE CONNECTION TO TURNBUCKLES & ANCHORS

"DUCKBILL" OR AUGER ANCHOR

IMPACT SOIL UNDER PLANT AVOID SETTLING

PLANTING PIT, SCARIFY SIDES

6" DIA x 6'-0" AUGERED DRYWELL FILL w/WASHED PEA GRAVEL

TREE GRATE MATCH TO EXISTING GRADE

FRAME SIZE VARIES

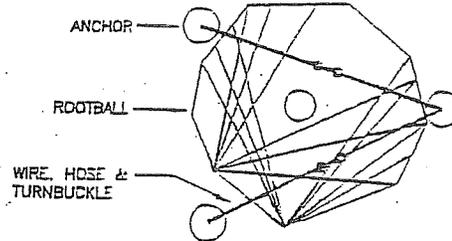
#4 REBAR WELDED TO FRAME

SIDEWALK

EXISTING ROAD FILL TO BE REMOVED TO A MIN. DEPTH OF 4'-0". REPLACE SOIL WITH STREET TREE PLANTING SOIL WATER COMPACT BACKFILL TO PREVENT SETTLING

NOTE: CONDUCT TREE PIT DRAINAGE TEST, IN PRESENCE OF CITY INSPECTOR PRIOR TO PLANTING

NOTE: REMOVE ANY WIRE, STRING OR OTHER FASTENER, PULL BACK BURLAP FROM TOP 1/2 OF ROOTBALL PRIOR TO PLACEMENT



GUY PLAN

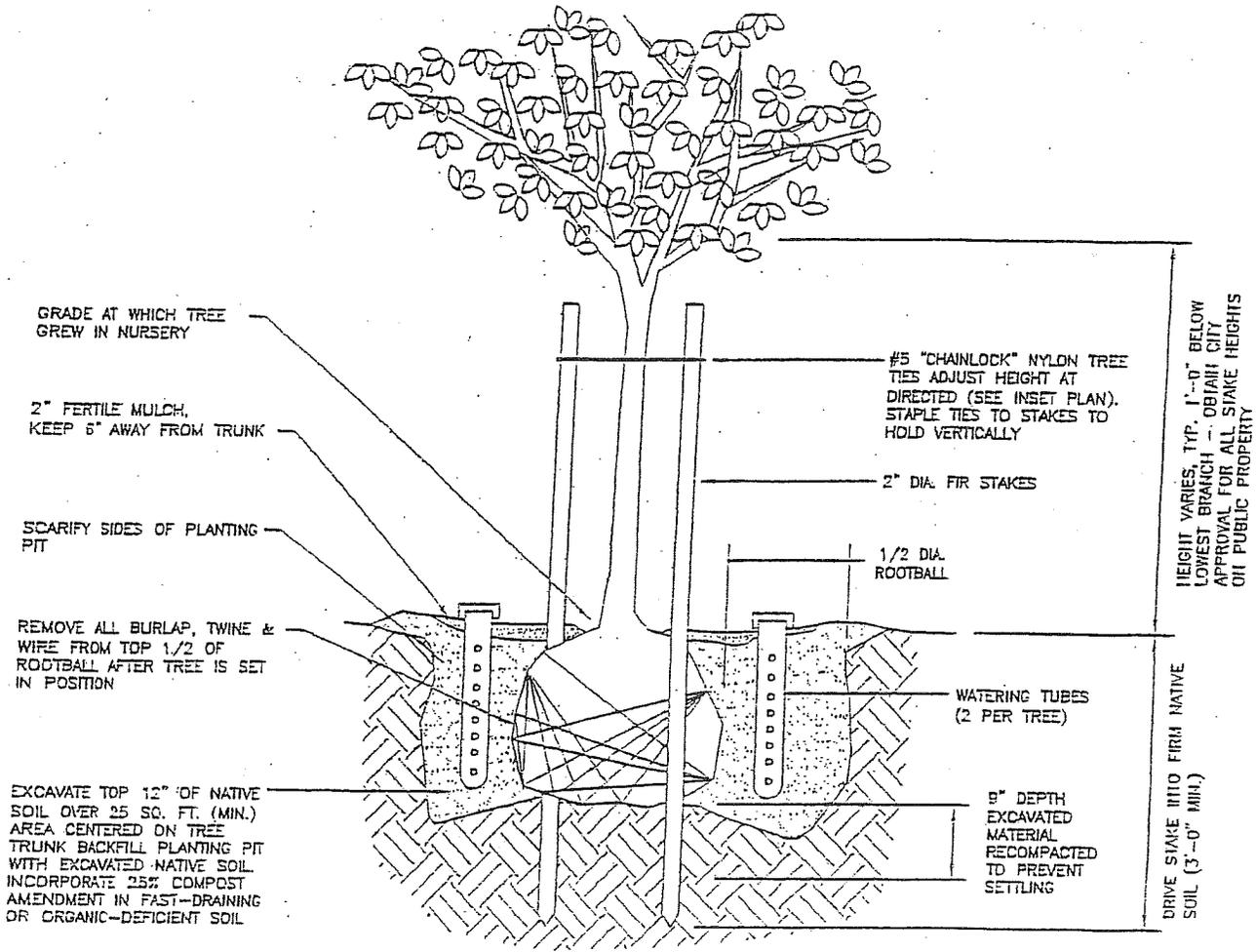


City of Chelan
Parks and Recreation

Tree Planting and Staking
with Tree Grate

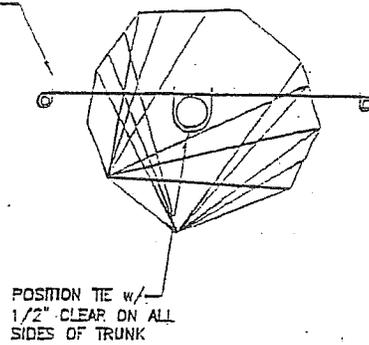
201

Revision Date:
March 2007



NOTE: CONDUCT TREE PIT DRAINAGE TEST IN THE PRESENCE OF CITY INSPECTOR PRIOR TO PLANTING

PROVIDE 2 SPARE LINKS TO ADJUST TENSION



STAKING PLAN

NOTE: STAKING REQUIRED FOR 5'-0" HT. AND TALLER TREES ONLY. ALTERNATE STAKING METHODS MAY BE ACCEPTABLE WITH THE APPROVAL OF THE APPLICABLE CITY AUTHORITY

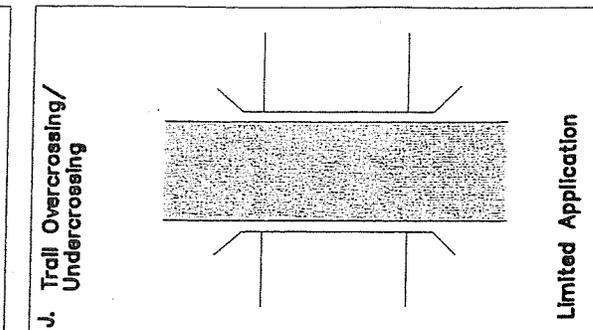
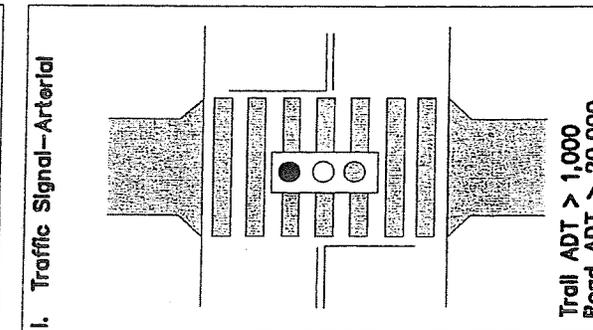
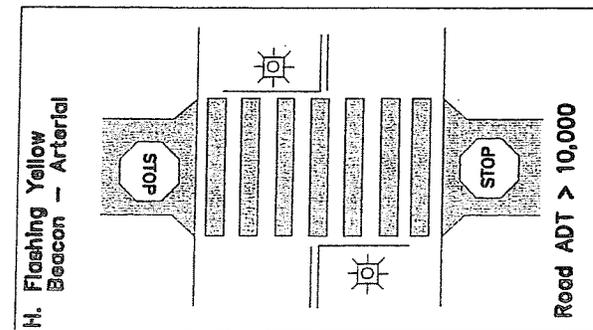
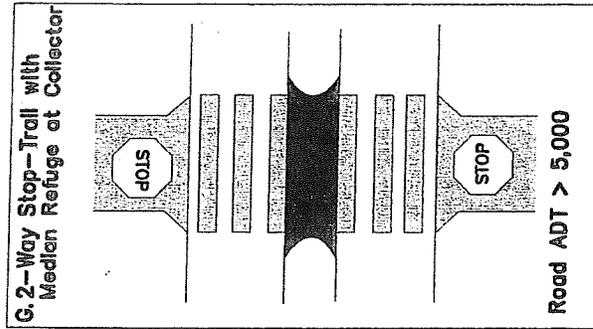
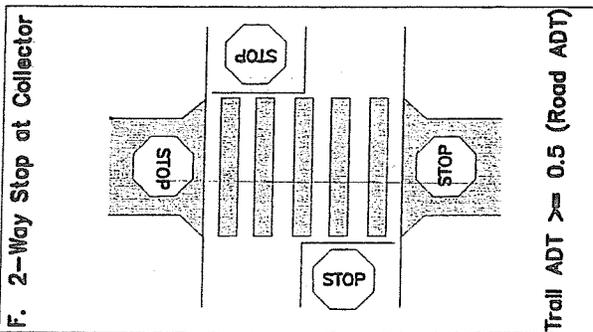
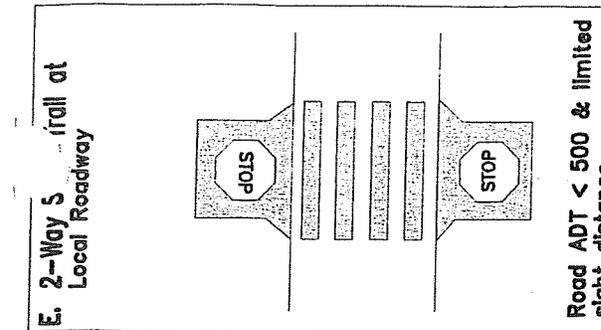
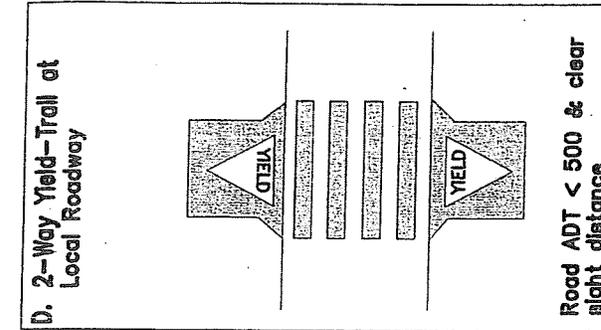
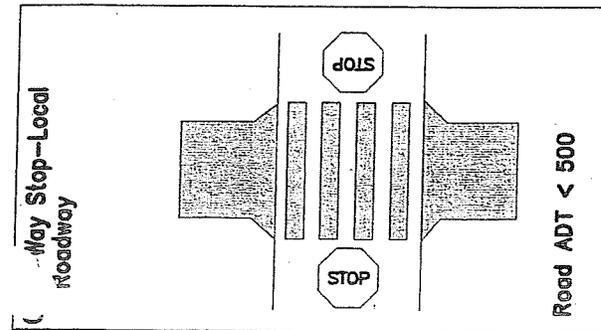
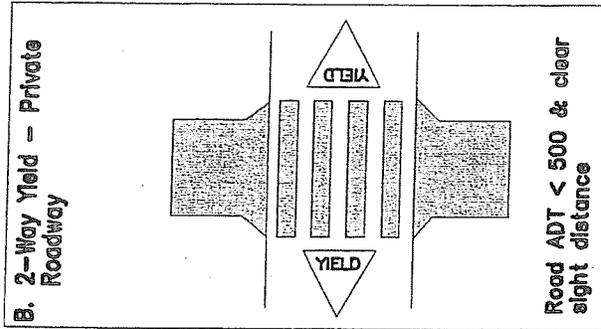
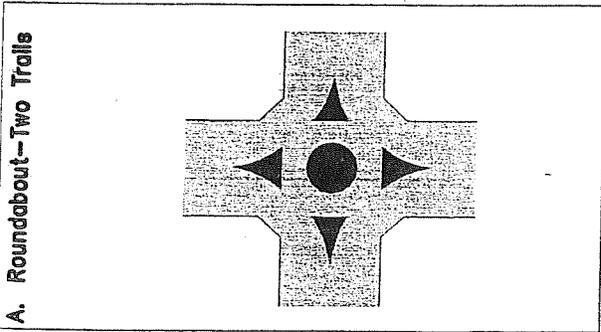


City of Chelan
Parks and Recreation

Tree Planting and Staking

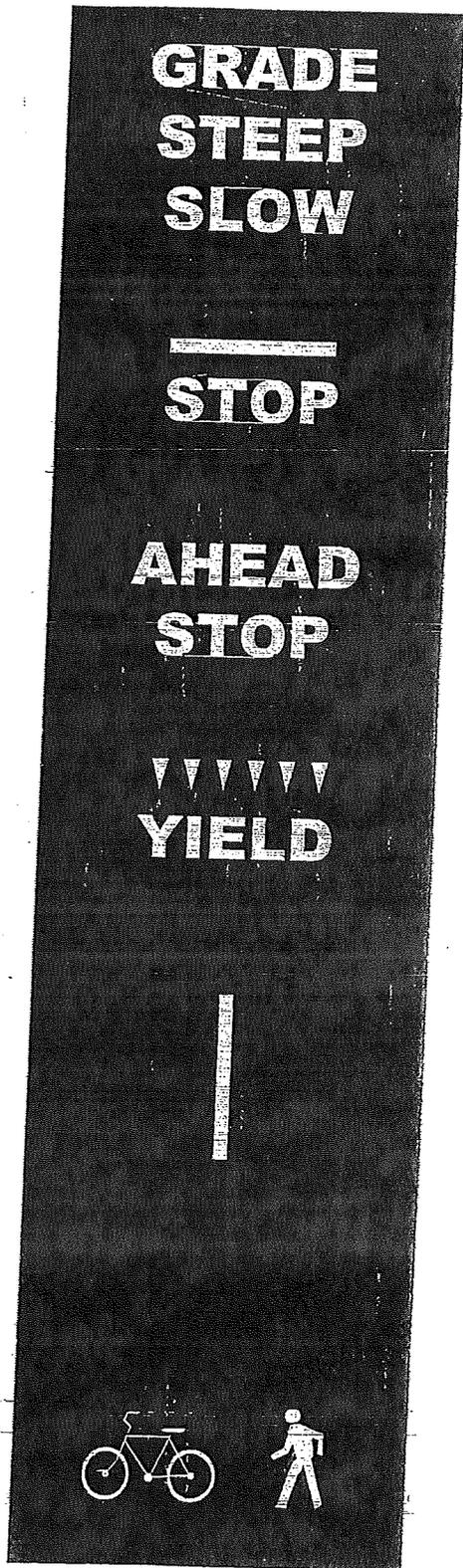
202

Revision Date:
March 2007



Road ADT = Roadway Average Daily Traffic Volume
Trail ADT = Trail Average Daily Traffic Volume





INSTALL WHERE TRAIL GRADE $\geq 5\%$
OR WHERE TRAIL GRADE IS 3% WITHIN
200 FEET OF STOP SIGN.

INSTALL WITH EVERY R1 STOP SIGN.

INSTALL 100 FEET IN ADVANCE OF
STOP SIGN.

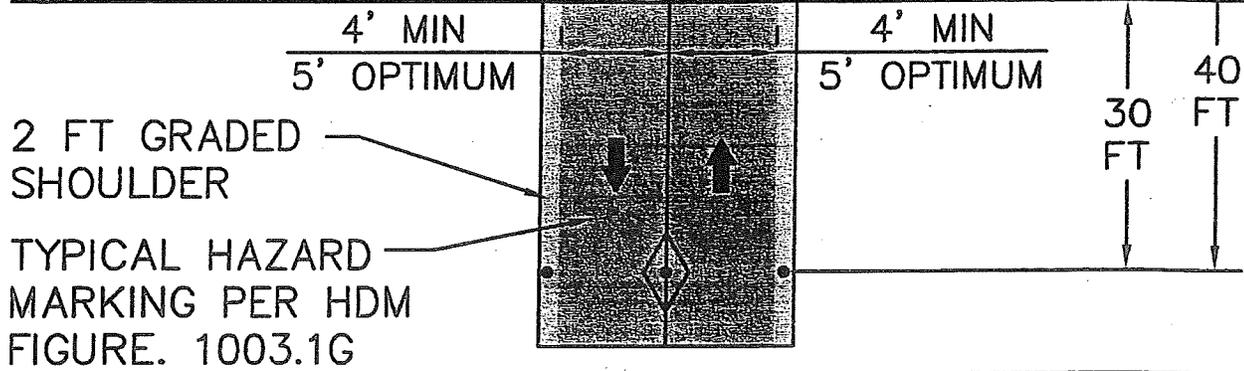
INSTALL WITH EVERY R1-2 YIELD SIGN.

4-INCH YELLOW CENTERLINE STRIPE
INSTALL FOR 50 FEET APPROACHING
EACH INTERSECTION AND THROUGHOUT
HORIZONTAL CURVE. A CENTERLINE
THROUGHOUT ENTIRE TRAIL WOULD
FACILITATE NIGHT TRAIL USE BY
IMPROVING VISIBILITY OF TRAIL.

INSTALL AT ENTRANCE WHERE BIKES
AND PEDS USE SEPARATE PATHS. PLACE
APPROXIMATELY EVERY 500 FEET IF
NEEDED TO IMPROVE COMPLIANCE.



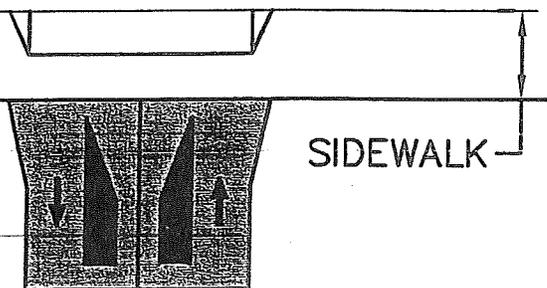
TYPICAL SIDEWALK



NOTE:

1. BOLLARDS SHOULD ONLY BE USED WHERE THERE HAS BEEN A DOCUMENTED PROBLEM OF ABUSE BY MOTOR VEHICLES. BOLLARDS MAY ALSO BE USED TO SLOW BICYCLES OR DRAW ATTENTION TO HAZARDS.
2. ONE BOLLARD IN THE CENTER OF THE PATH IS USUALLY SUFFICIENT TO DISCOURAGE MOTOR VEHICLES. IF MORE THAN ONE BOLLARD IS USED, A MINIMUM PAVED WIDTH OF 5 FEET MUST BE PROVIDED TO ALLOW TRAILERS AND BICYCLE WITH PANNIERS TO PASS.
3. TWO GAPS SHALL BE PROVIDED BETWEEN THE BOLLARDS SO THAT TWO DIRECTIONS OF BIKE TRAFFIC CAN PASS SAFELY.

AN ALTERNATIVE TO BOLLARDS WHERE THERE IS ADEQUATE RIGHT-OF-WAY IS TO DIVIDE THE TRAIL INTO TWO SHORT ONE-WAY SEGMENTS AT THE INTERSECTION APPROACH.

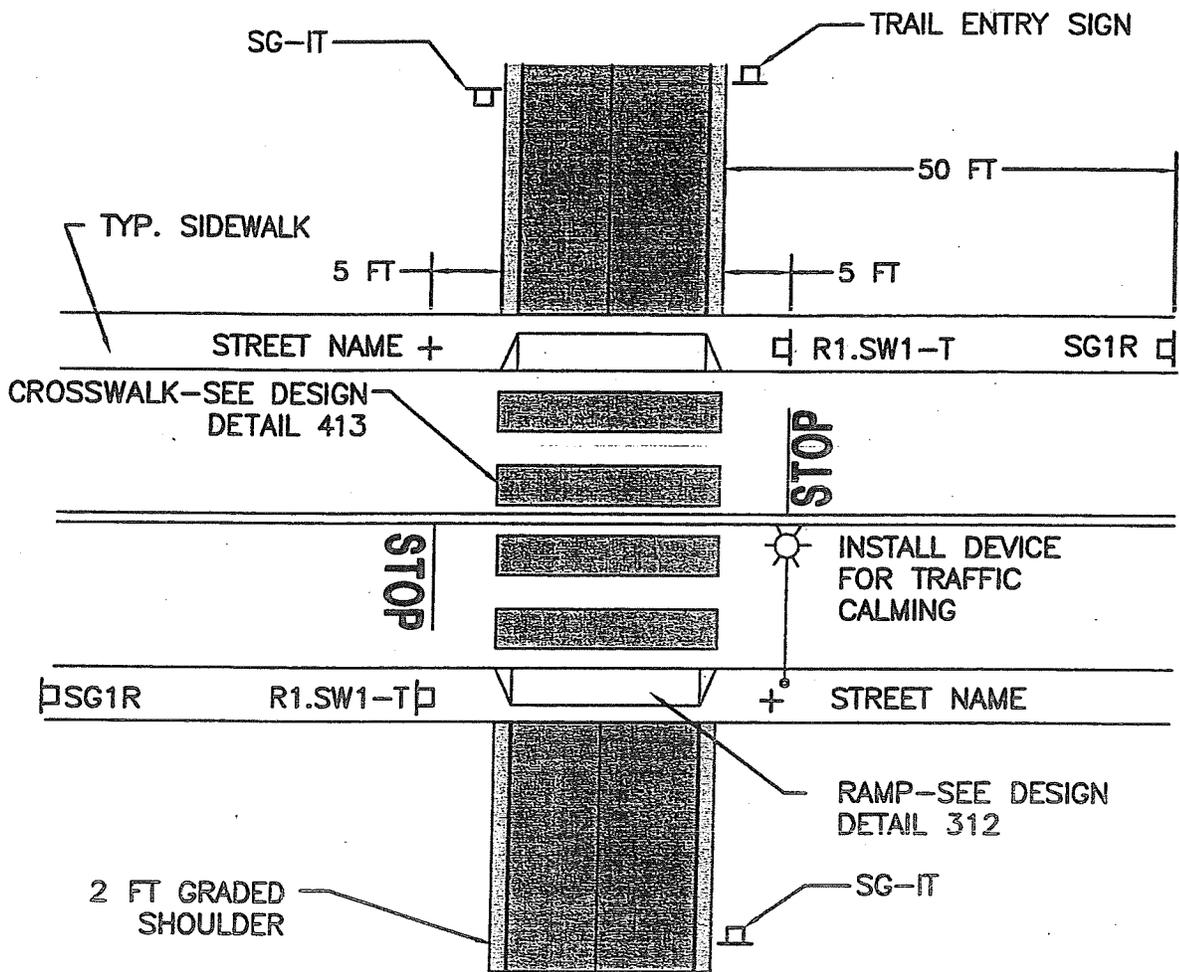


City of Chelan
Parks and Recreation

Bollard Layout for Trails

302

Revision Date:
March 2007



CONSIDER WHERE:
 SPEED IS \leq 25MPH
 ADT IS \leq 500VPD

NOTE:

1. IF BOLLARDS ARE USED, SEE DETAIL 514 AND 515
2. CONSIDER ON STREET PARKING RESTRICTIONS TO MAINTAIN ADEQUATE SIGHT DISTANCE
3. REFER TO CITY TRAFFIC ENGINEER FOR DETAILS ON TRAFFIC CALMING STRATEGIES

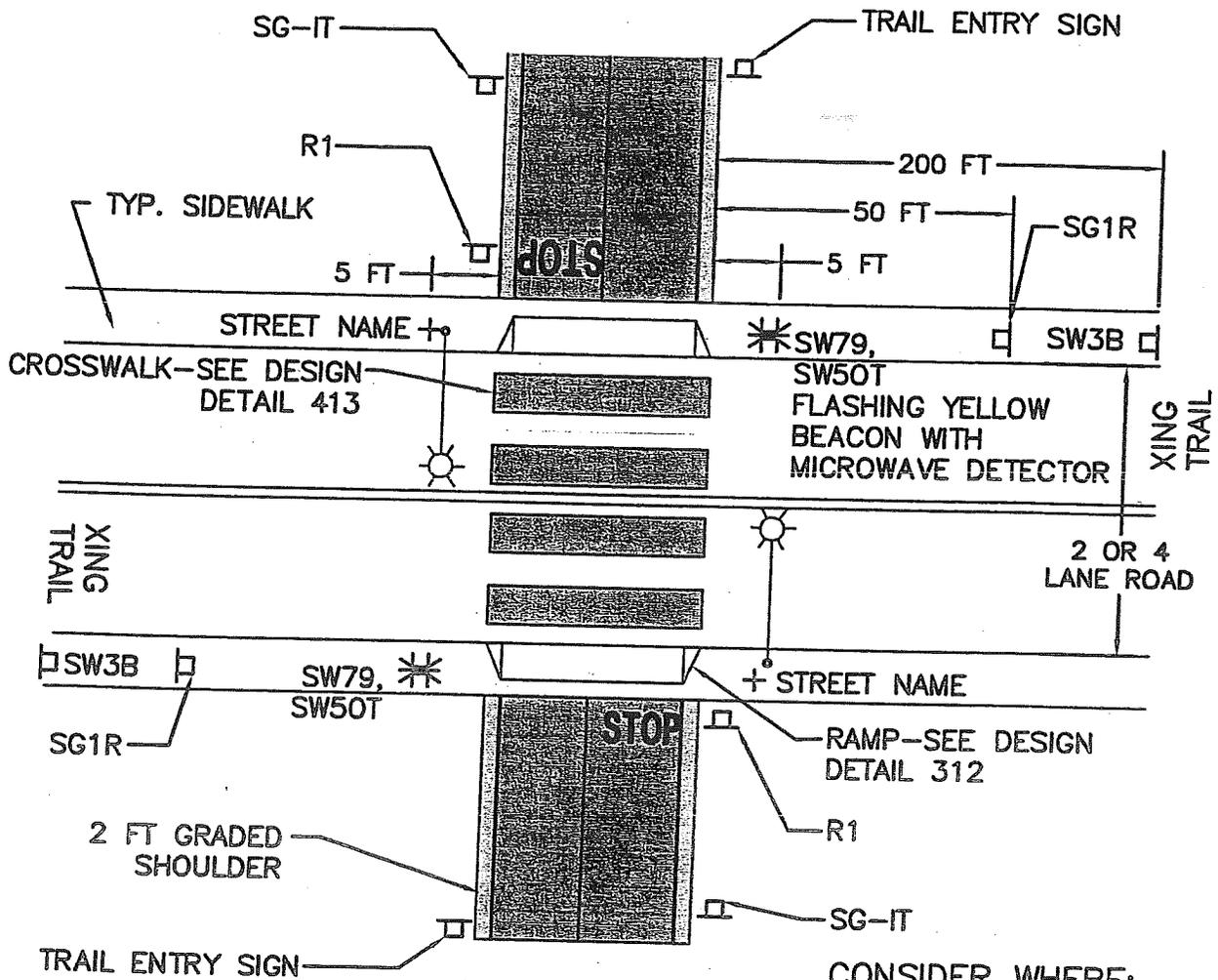


City of Chelan
 Parks and Recreation

Trail Crossing at Local Street With Low
 Volume

304

Revision Date:
 March 2007



CONSIDER WHERE:

- SPEED IS \geq 30MPH
- ADT IS $>$ 10,000VPD (4-LANE ROAD)
- OR ADT IS $>$ 5,000VPD (2-LANE ROAD)
- TRAIL ADT IS $>$ 500

NOTE:

1. MEDIAN REFUGE, BULBOUTS, AND/OR INPAVMENT FLASHES MAY BE CONSIDERED IN CONJUNCTION WITH THIS DESIGN.
2. IF BOLLARDS ARE USED, SEE DETAIL 513 AND 514
4. MAINTAIN STOPPING SIGHT DISTANCE APPROPRIATE FOR CRITICAL SPEED OF MOTOR VEHICLES
5. CONSIDER ON STREET PARKING RESTRICTIONS TO MAINTAIN ADEQUATE SIGHT DISTANCE
6. REFER TO CITY TRAFFIC ENGINEER FOR DETAILS ON TRAFFIC CALMING STRATEGIES



City of Chelan
Parks and Recreation

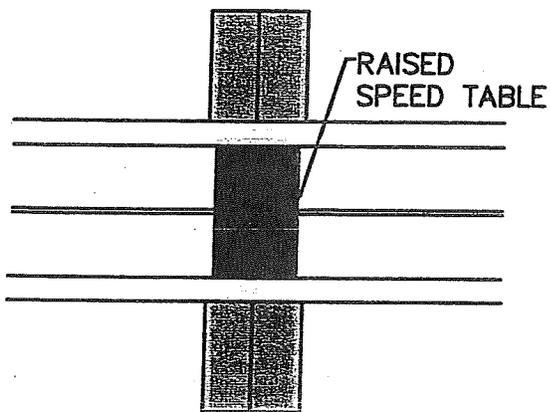
Trail Crossing at Arterial or Major
Collector with Flashing Yellow Beacon

306

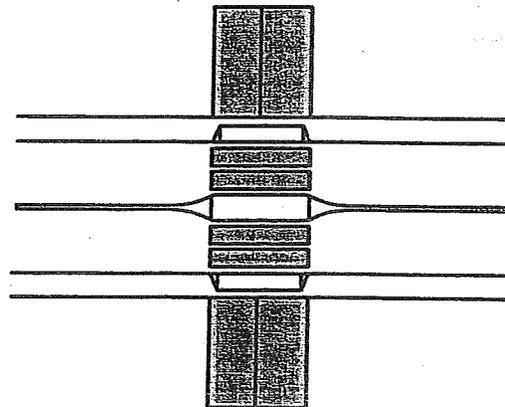
Revision Date:
March 2007

MENU OF TRAFFIC CALMING STRATEGIES

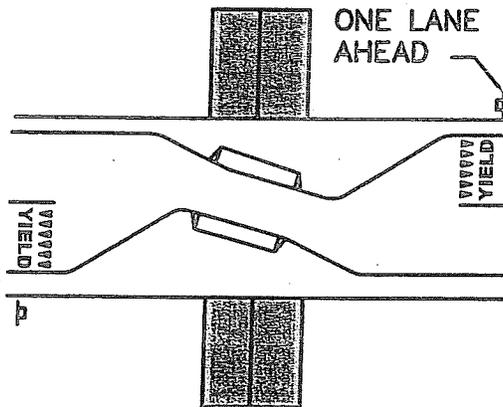
SPEED TABLE



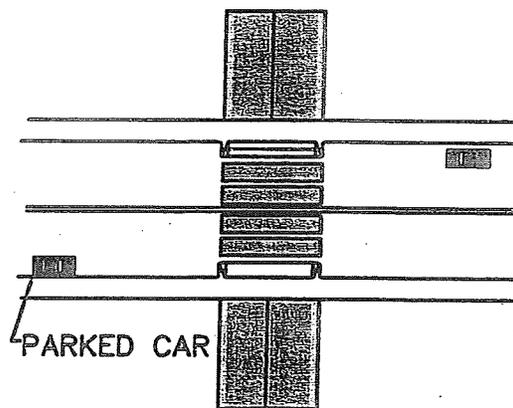
MEDIAN REFUGE

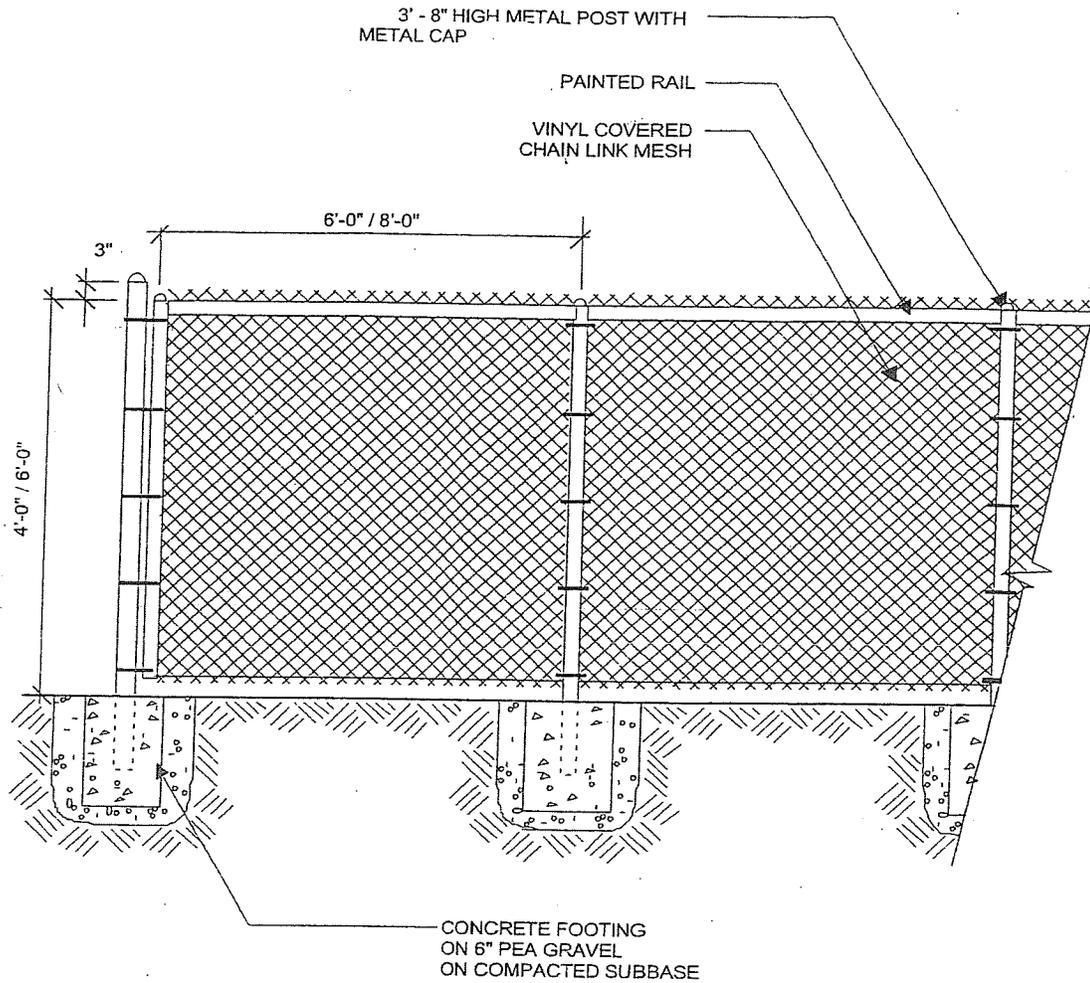


ONE WAY CHOKE POINT

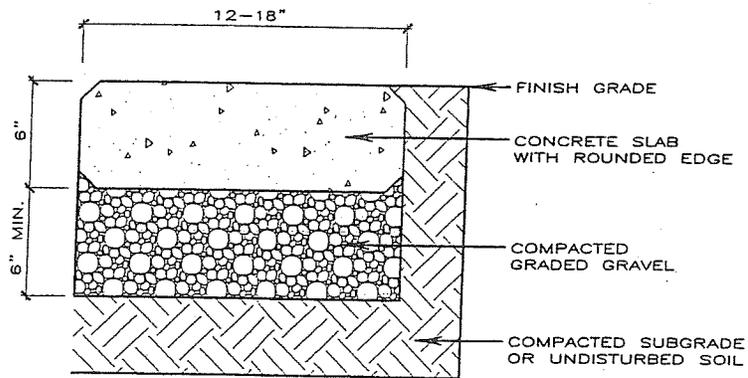


BULBOUTS





CHAIN LINK FENCE



MOW STRIP

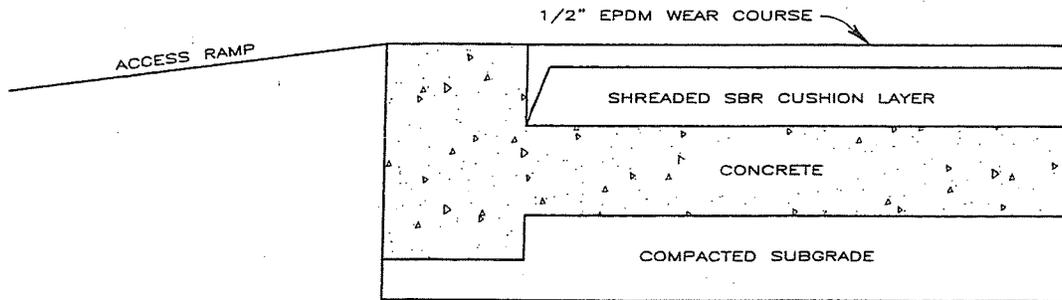


City of Chelan
Parks and Recreation

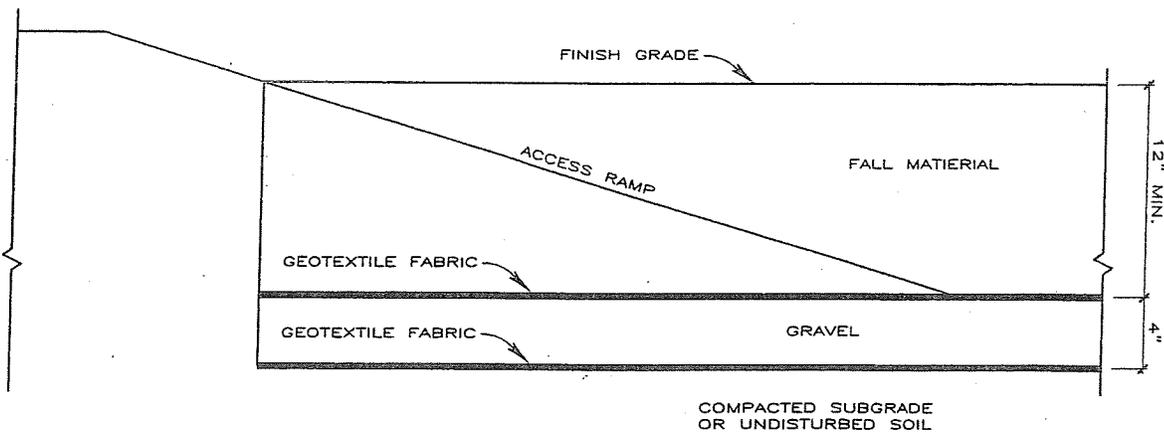
Park Fence and Mow Strip

402

Revision Date:
March 2007



RUBBER CUSHION SAFETY PIT



WOOD CARPET SAFETY PIT



City of Chelan
Parks and Recreation

Playground Equipment Pit

403

Revision Date:
March 2007

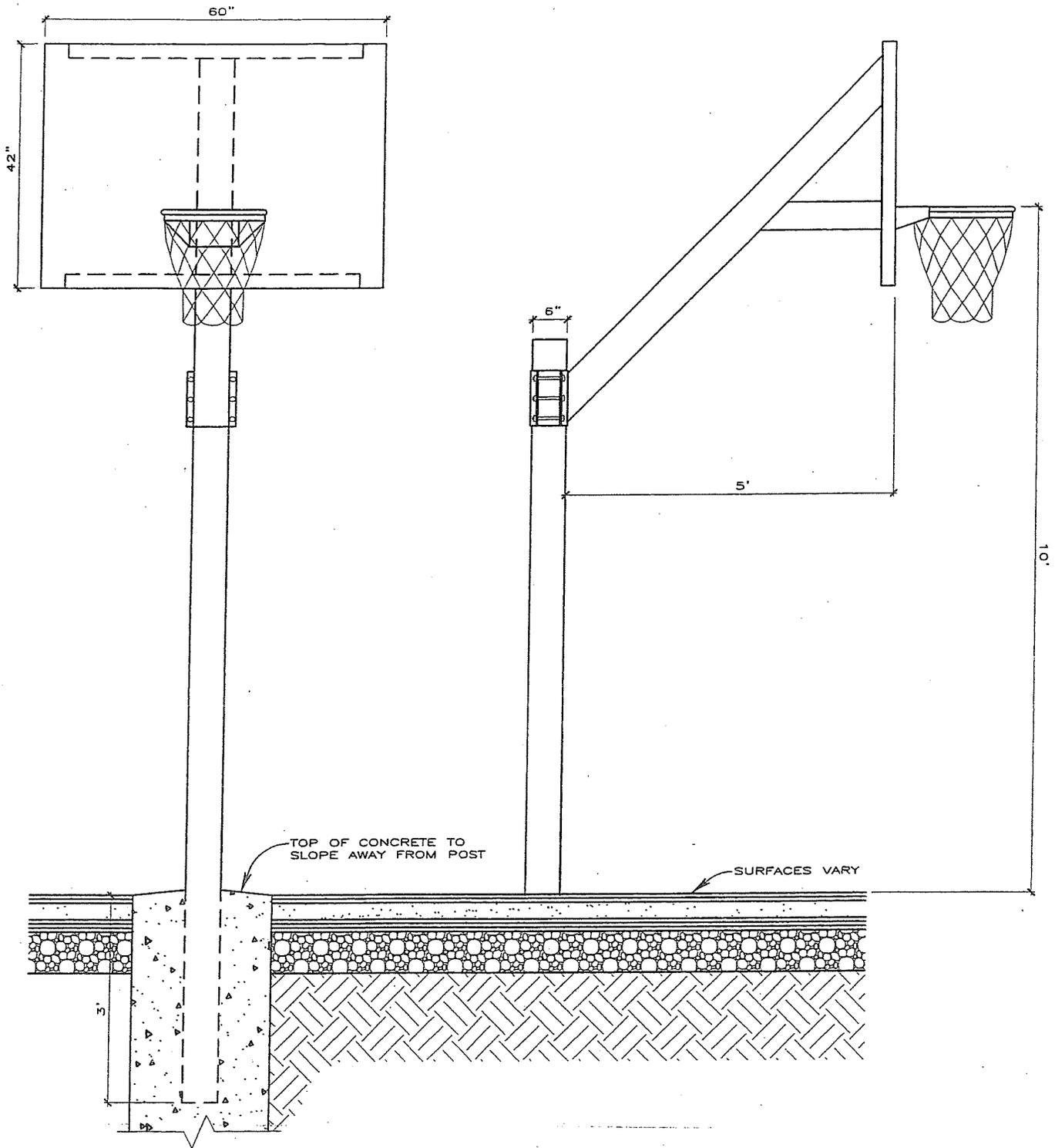


City of Chelan
Parks and Recreation

Paving and Curbs

404

Revision Date:
March 2007

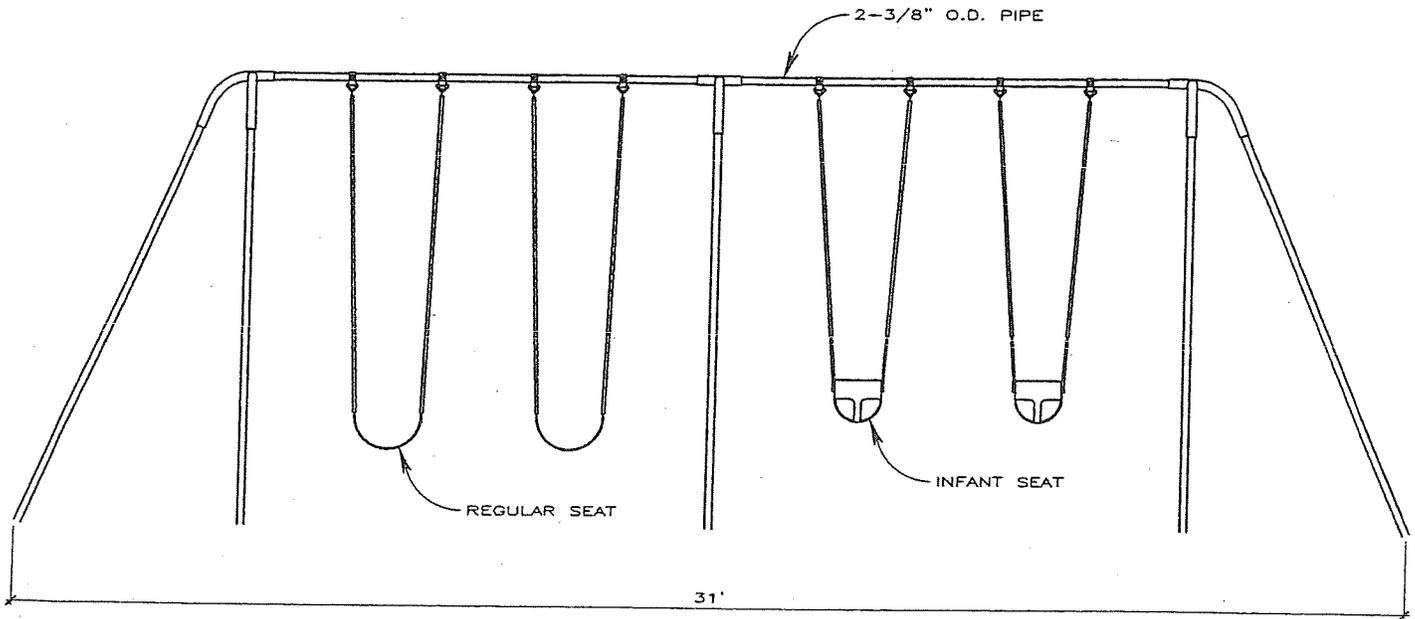


City of Chelan
Parks and Recreation

Basketball Standard

500

Revision Date:
March 2007

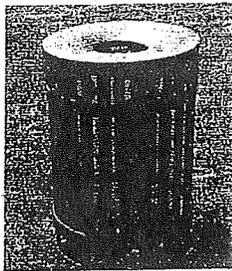


City of Chelan
Parks and Recreation

Swing

501

Revision Date:
March 2007



Model #5936

Main Street Litter—36 gallon

- 36" high, 24" diameter
- Powder Coat Finish
- Surface mount only
- Standard with metal spun funnel top
- Standard with high density plastic liner

• SPUN DOME TOP

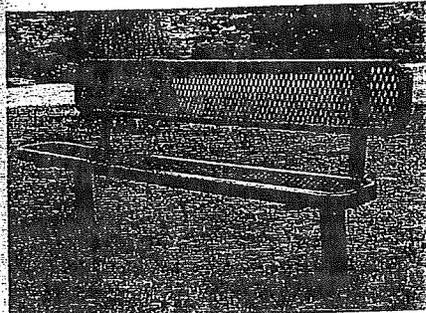


City of Chelan
Parks and Recreation

Trash Receptacle

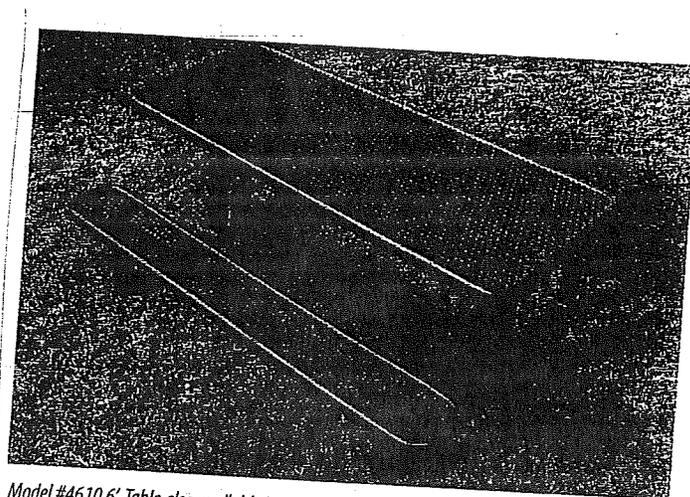
502

Revision Date:
March 2007



Model #4621 6' Gull Leg Bench with Back

| | | | |
|--|--|------------|---|
|  | City of Chelan Parks and Recreation | Park Bench | 503 Revision Date: March 2007 |
|--|--|------------|---|



Model #4610 6' Table also available in 8' and/or handicap accessible.

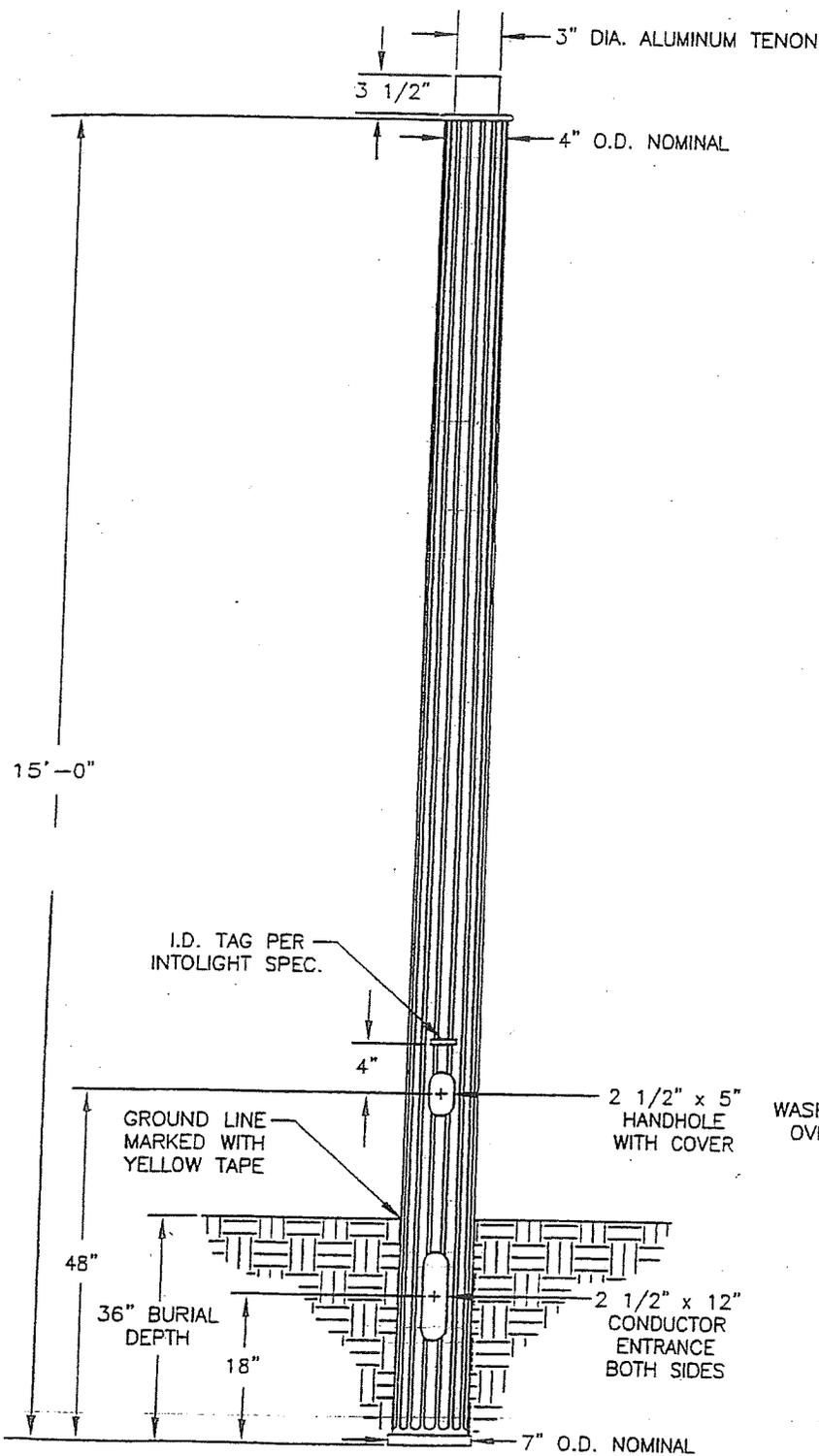


City of Chelan
Parks and Recreation

Picnic Table

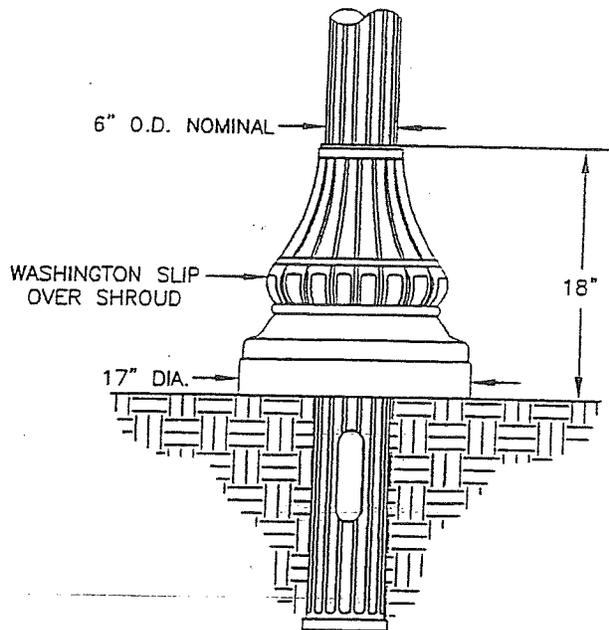
504

Revision Date:
March 2007



NOTES:

1. COLOR - NORTHWEST GREEN
2. FINISH - SEMI-GLOSS
3. MATERIAL - FIBERGLASS REINFORCED COMPOSITE EXCEPT AS NOTED

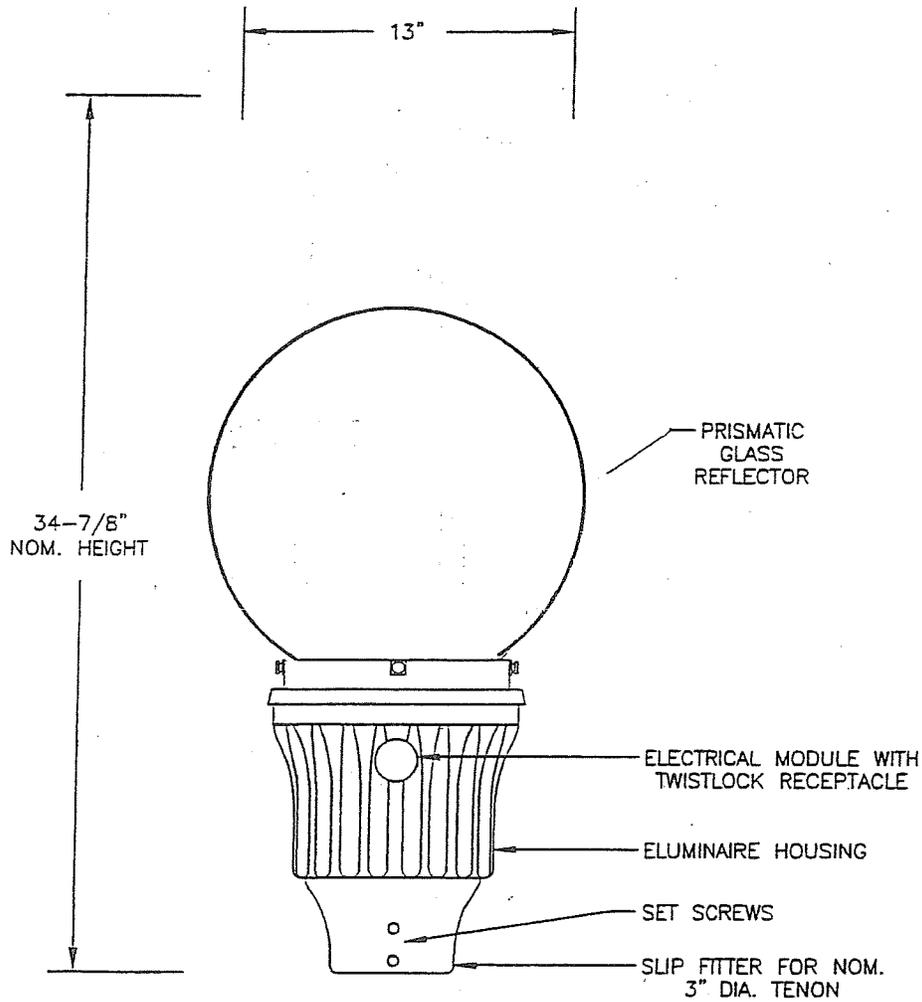


City of Chelan
Parks and Recreation

Ornamental Light Pole

505

Revision Date:
March 2007

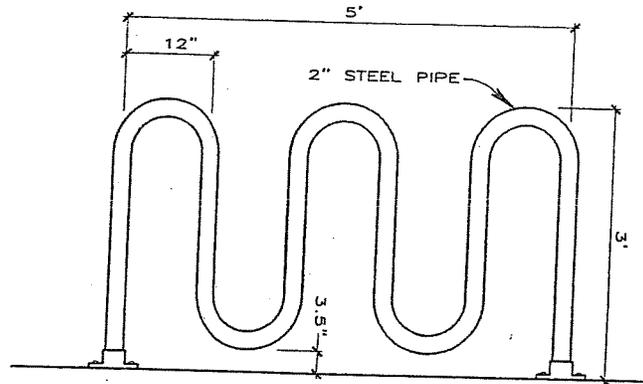


City of Chelan
Parks and Recreation

Park Luminaire

506

Revision Date:
March 2007



HEAVY DUTY 5-LOOP BICYCLE RACK

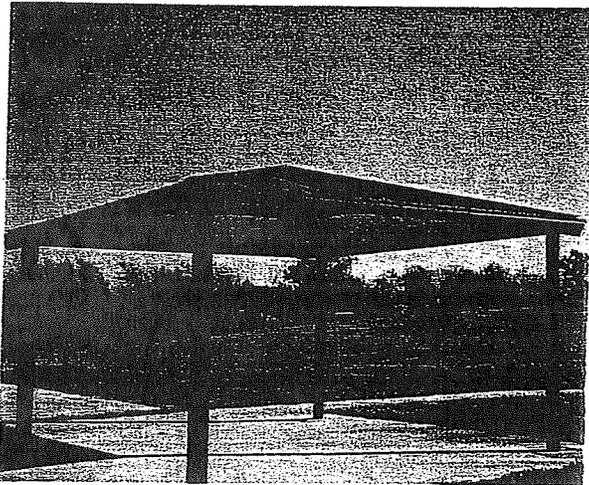


City of Chelan
Parks and Recreation

Bicycle Rack

507

Revision Date:
March 2007



Model #8116
16' Pittsburgh Square

Series 8100

Features

- Sizes: 12', 16', 20', 24', 26', 32', 40'
- 24-gauge Litchtop Multi-Rib Roofing
- Tubular Steel Framework
- Flat-Black Enamel Frame

Options

- Duo-top, 2-Tier Vented Roof Design
- Tri-top, 3-Tier Roof Design
- Steel Rails
- Steel Overhead Ornate Lattice
- Powder Coated Frame Finish
- All-Steel Cupola
- Custom Frame Colors

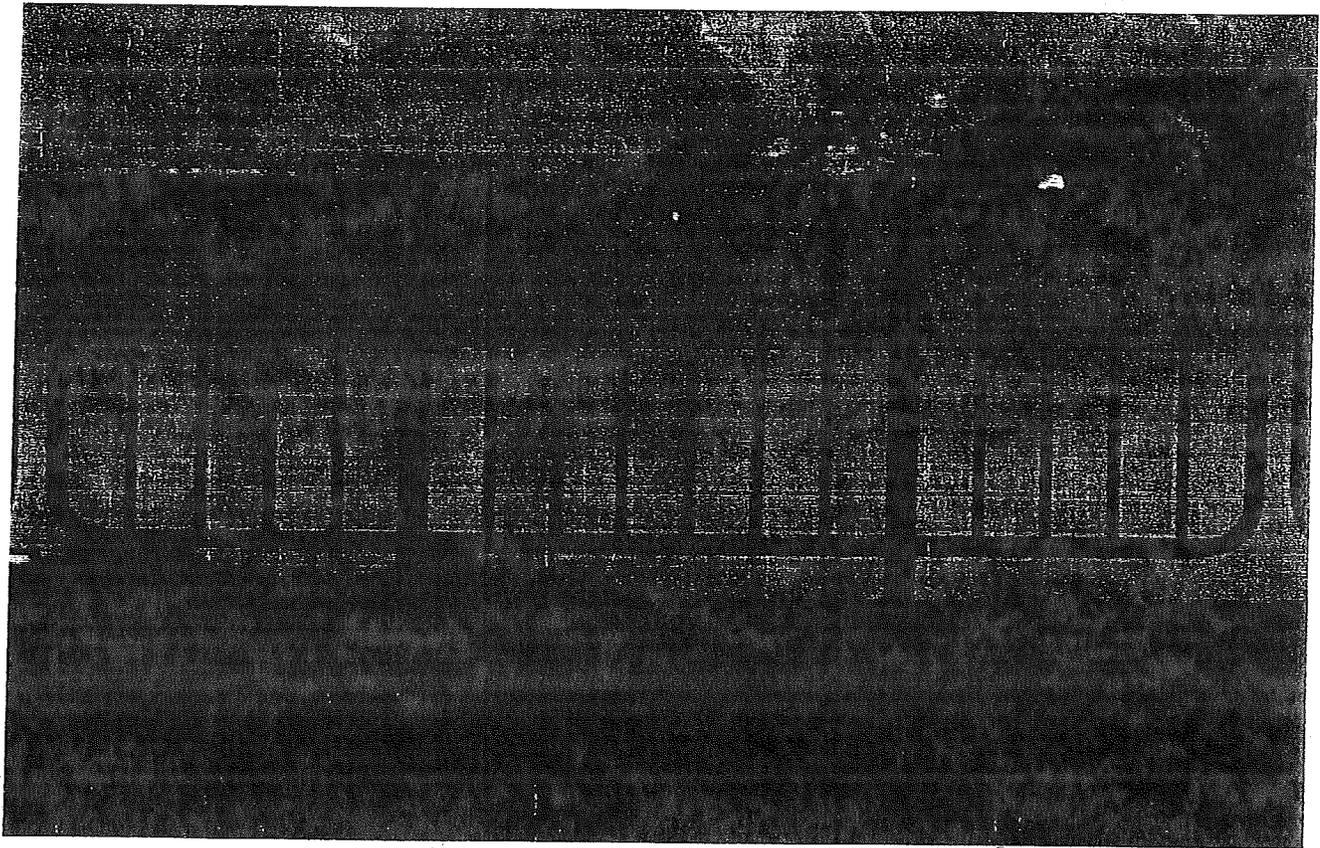


City of Chelan
Parks and Recreation

Picnic Shelter

508

Revision Date:
March 2007

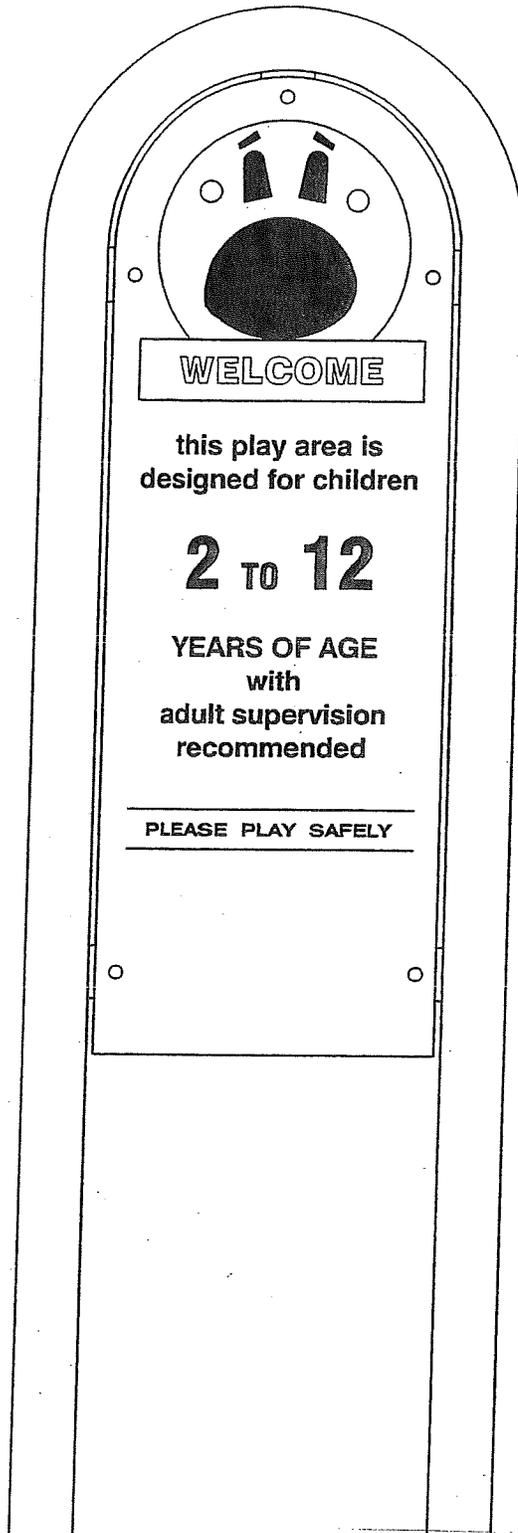


City of Chelan
Parks and Recreation

Railing Detail

509

Revision Date:
March 2007

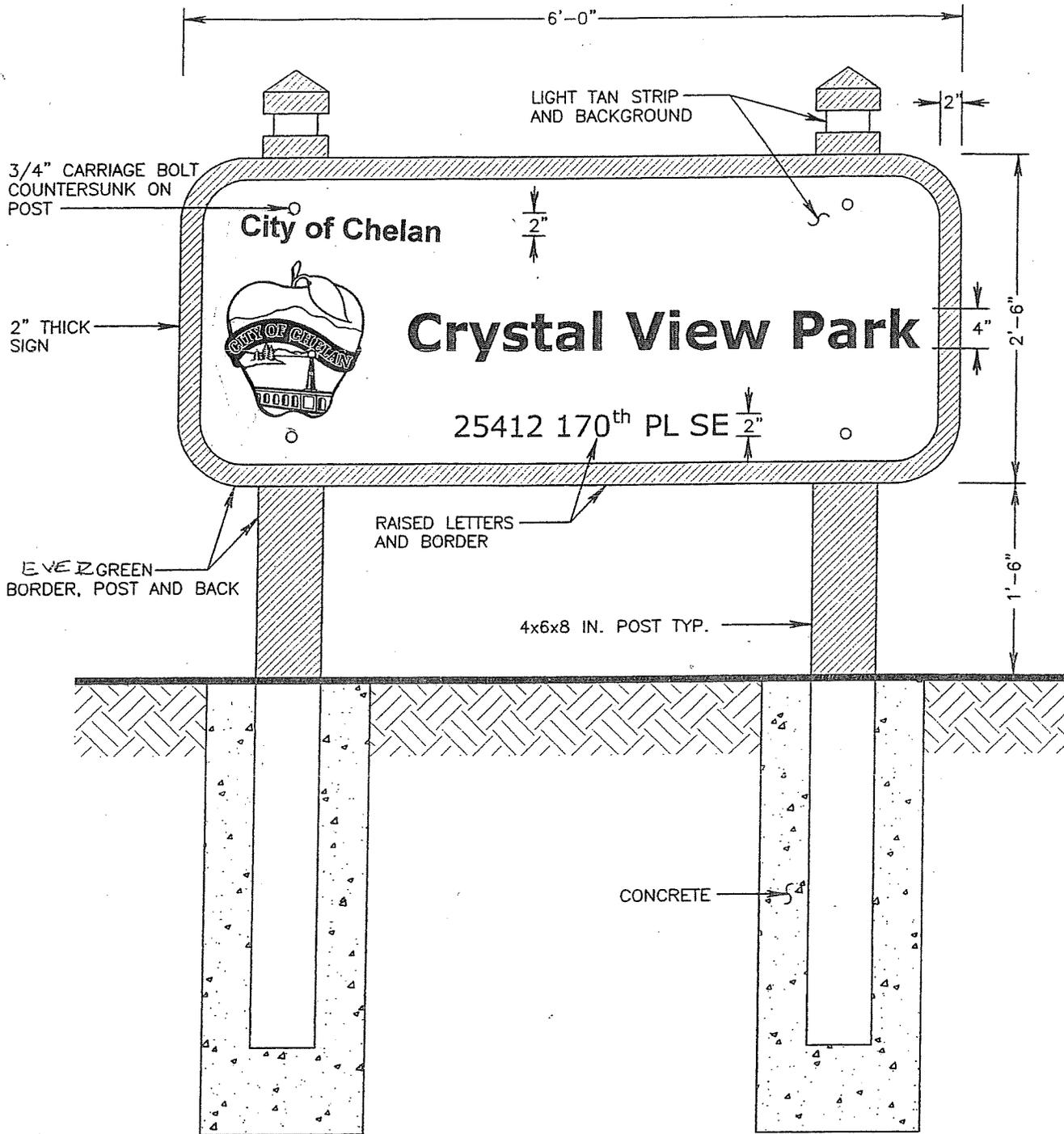


City of Chelan
Parks and Recreation

Play Area Sign

600

Revision Date:
March 2007



| | | |
|---|------------------------|---|
|  <p>City of Chelan Parks and Recreation</p> | <p>Park Entry Sign</p> | <p>601</p> |
| | | <p>Revision Date: March 2007</p> |

FOREGROUND
COLOR: EVERGREEN

PARK RULES

RULES LISTED

BACKGROUND
COLOR: BEIGE



Help protect and care for this area
City of Chelan

SIGN SIZE: 24"X36"

ATTACH SIGN TO POST WITH
DRIVE RIVETS

2X2 UNISTRUT

NOTES:

1. SIGN SHALL BE STATIONED IN A PROMINENT LOCATION, i.e.: AT THE CLOSEST POINT TO THE PROPOSED DEVELOPMENT. SIGN MAY ALSO BE ATTACHED TO FENCES.
2. RULES AS DEFINED BY MUNICIPAL CODE. *CMC 9.22*



City of Chelan
Parks and Recreation

Park Rules Sign

602

Revision Date:
March 2007

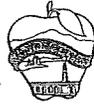
FOREGROUND
COLOR: *EVERGREEN*

Watch Us Grow!

BACKGROUND
COLOR: *BEIGE*

**Future home
of
Wellington Estates
Park**

**To report vandalism or damage
call 682-8023**



Help protect and care for this area
City of Chelan

SIGN SIZE: 24"x36"

ATTACH SIGN TO POST WITH
DRIVE RIVETS

2X2 UNISTRUT

NOTES:

1. SIGN SHALL BE STATIONED IN A PROMINENT LOCATION, i.e.: AT THE CLOSEST POINT TO THE PROPOSED DEVELOPMENT. SIGN MAY ALSO BE ATTACHED TO FENCES.

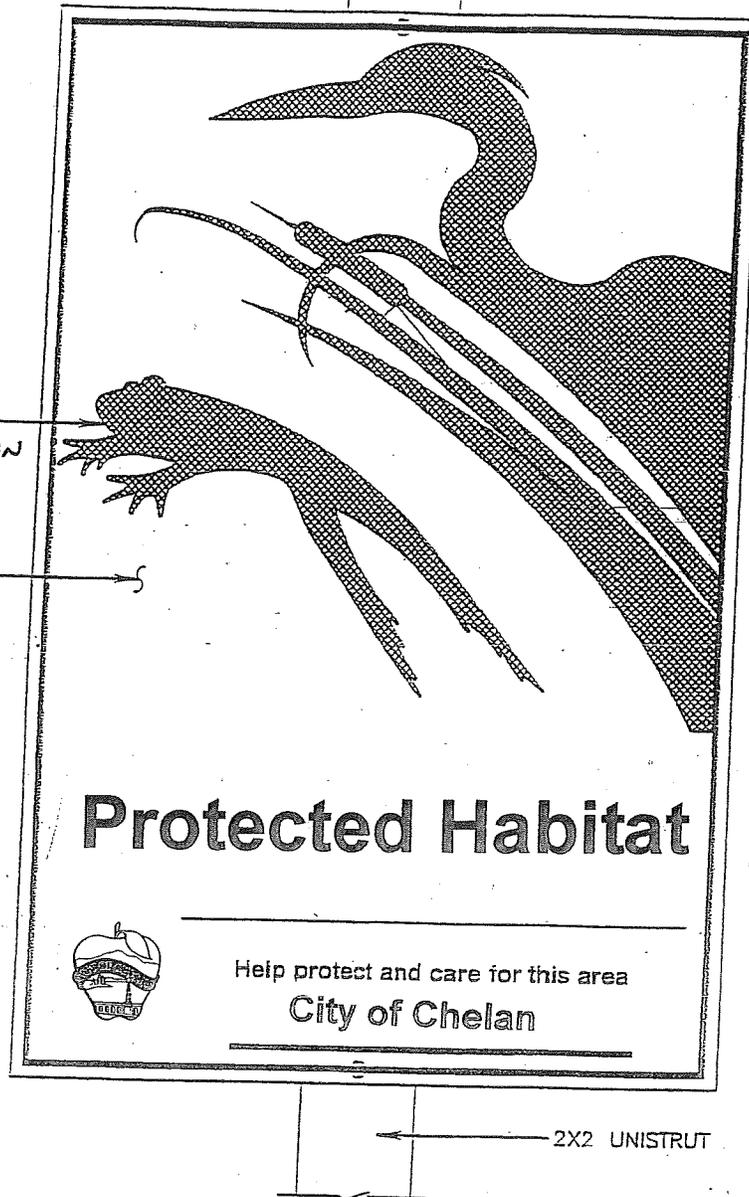


City of Chelan
Parks and Recreation

Future Park Sign

603

Revision Date:
March 2007



FOREGROUND
COLOR: EVERGREEN

BACKGROUND
COLOR: BEIGE

SIGN SIZE: 24"x36"

ATTACH SIGN TO POST
WITH DRIVE PIVET

2X2 UNISTRUT

NOTES:

1. THE SIGN SHALL BE POSTED AT THE BOUNDARY BETWEEN THE SENSITIVE AREA BUFFER, SETBACK AREA OR SETBACK TRACT AND THE BUILDING SETBACK AREA.
2. SIGN SHALL BE STATIONED IN A PROMINENT LOCATION, i.e.: AT THE CLOSEST POINT TO THE PROPOSED DEVELOPMENT. SIGN MAY ALSO BE ATTACHED TO FENCES.

| | | |
|---|-------------------------------|---|
|  <p>City of Chelan Parks and Recreation</p> | <p>Protected Habitat Sign</p> | <p>604</p> |
| | | <p>Revision Date: March 2007</p> |



**Call Chelan Parks & Recreation
at 682-8023
to advertise your business**

Banner Measures: 10' x 2' -6"

General Information:

Vinyl banner with hemmed edges and metal grommets

Single color ink

**Call Chelan Parks & Recreation
at 682-8023
to advertise your business**



City of Chelan
Parks and Recreation

Athletic Field Outfield Sign

605

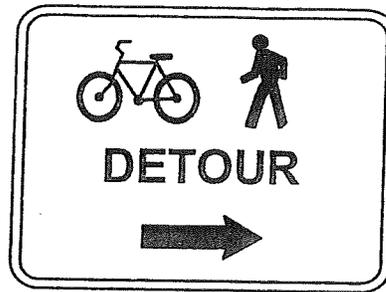
Revision Date:
March 2007



ADVANCE NOTICE
SIGN SC-1

NOTE:

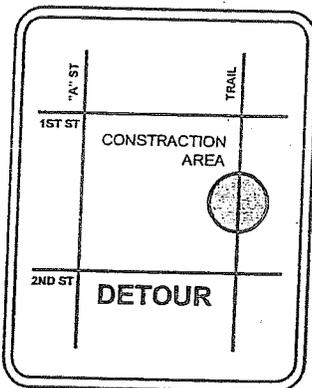
EXACT LANGUAGE OF SC-1 SIGN
WILL DEPEND UPON
CIRCUMSTANCES AT THE TIME.
CONSIDER PROVIDING PHONE
NUMBER OF RESPONSIBLE
AGENCY.



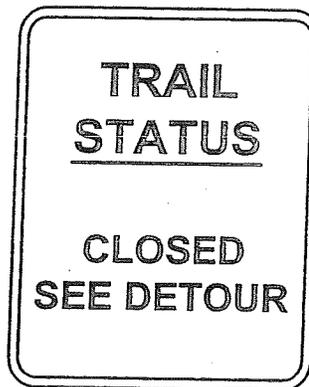
DETOUR SIGN SC-2

NOTE:

SEPARATE DETOURS FOR
PEDESTRIANS AND BICYCLES
MAY BE NEEDED



SCHEMATIC OF
DETOUR ROUTE SC-3



NOTE:

PROVIDING A DETOUR MAY BE
PRACTICAL OR, ALTERNATIVELY, THERE
MAY BE SEVERAL CANDIDATE DETOURS.
TRAIL OPERATOR SHOULD WORK WITH
LOCAL AGENCY TO DECIDE ON AN
APPROPRIATE DETOUR.

NOTE:

INDICATE TRAIL STATUS.

- Alternate Messages
- OPEN-WORK IN PROCESS
 - HERBICIDE SPRAYING



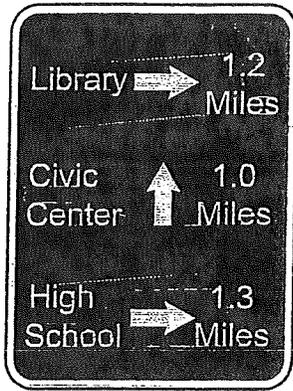
City of Chelan
Parks and Recreation

Trail Maintenance/Detour Sign

606

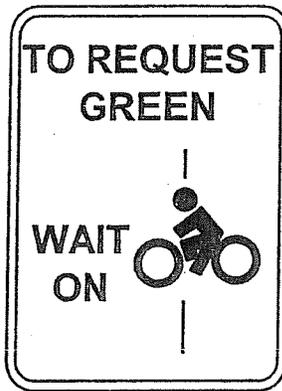
Revision Date:
March 2007

DESTINATION SIGN

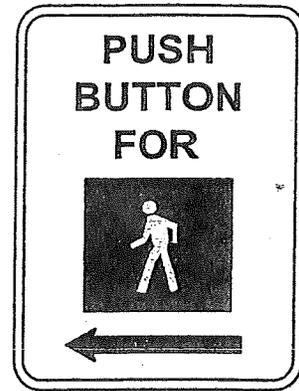


White on Green
SG-IT

TRAFFIC SIGNAL DETECTION SIGNS



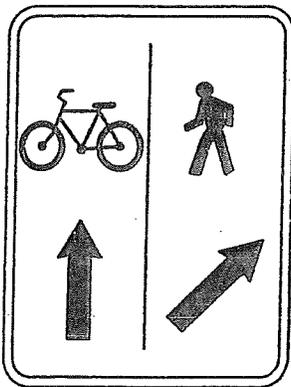
MUTCD R10-22



MUTCD R10-45

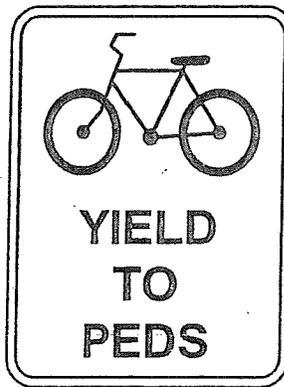
Other Recommended Signs

TRAIL WITH SEPARATE
BIKE/PED PATHS



SR-R9

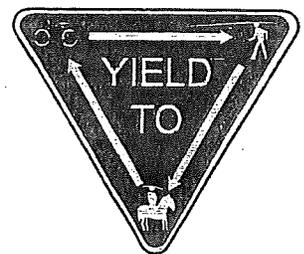
MULTI-USE TRAIL



MUTCD R9-6



SR-01T



EBRPD Sign



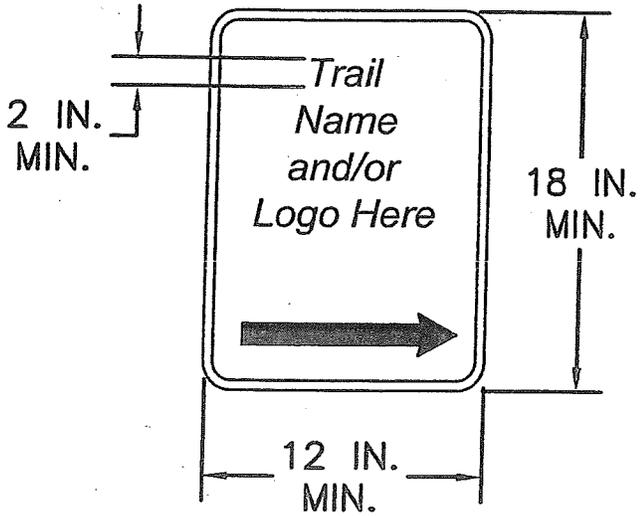
City of Chelan
Parks and Recreation

Trail Signage
Traffic Control at Intersection

607

Revision Date:
March 2007

RECOMMENDED SUPPLEMENTAL SIGNING AT CIRCUITOUS TRAIL ROUTINGS



SG1R



SG1RL



City of Chelan
Parks and Recreation

Sign For Trails At Intersections

608

Revision Date:
March 2007

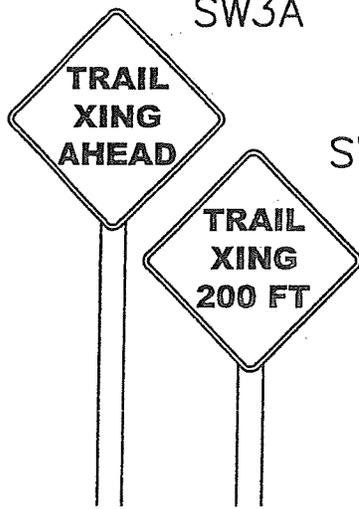
SW79



SW50T

Placed at the trail crossing where roadway is not controlled by STOP, YIELD or traffic signal.

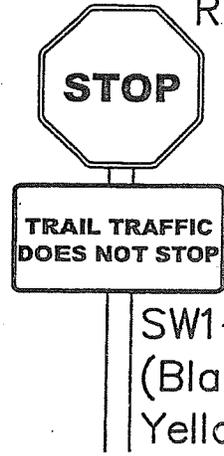
SW3A



SW3B

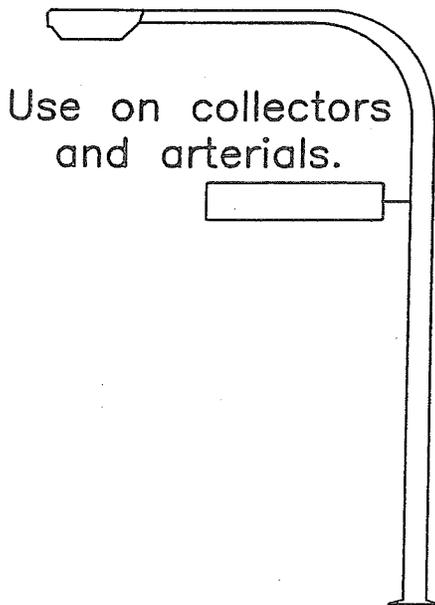
Placed in advance of all trail crossings.

R1

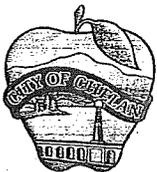


SW1-T
(Black on Yellow)

TYPICAL LARGE TRAIL NAME SIGN



TYPICAL FLASHING YELLOW BEACON MUTCD R9-5

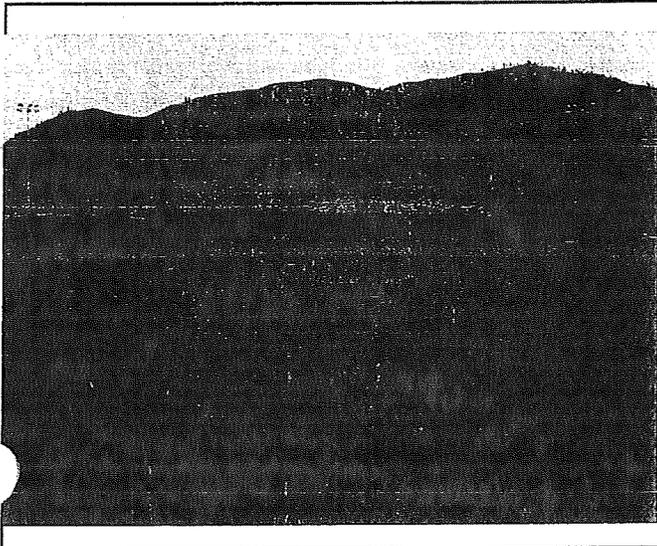


City of Chelan
Parks and Recreation

Signs for Roadways at Trail Crossings

609

Revision Date:
March 2007



Appendix B:
ADA GUIDELINES FOR PLAY
AREAS
CPSC PUBLICATION 325
ASTM STANDARD 1487



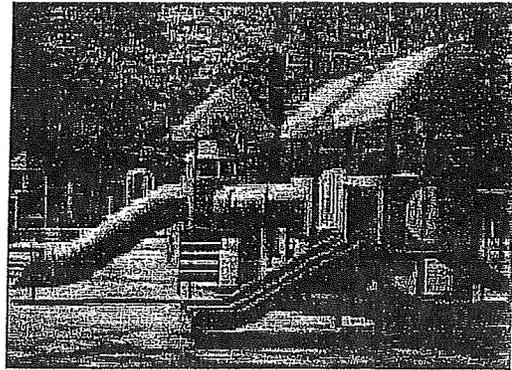
A Guide to the ADA Accessibility Guidelines for Play Areas

U.S. Architectural and Transportation Barriers Compliance Board
May 2001

INTRODUCTION

The Americans with Disabilities Act (ADA) is a comprehensive civil rights law that prohibits discrimination on the basis of disability. The ADA requires that newly constructed and altered state and local government facilities, places of public accommodation, and commercial facilities be readily accessible to, and usable by, individuals with disabilities.

Recreational facilities, including play areas, are among the facilities required to comply with the ADA.



The Architectural and Transportation Barriers Compliance Board - often referred to as the "Access Board" - has developed accessibility guidelines for newly constructed and altered play areas. The play area guidelines are a supplement to the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Once these guidelines are adopted as enforceable standards by the Department of Justice, all newly constructed and altered play areas covered by the ADA will be required to comply.

This guide is designed to assist in using the play area accessibility guidelines and is divided into the following sections:

- Summary
- Defined Terms
- Where Do the Play Area Guidelines Apply?
- What is a Play Component?
- How Many Play Components Must Be on an Accessible Route?
- What Are the Requirements for Accessible Routes?
- What Other Accessibility Requirements Apply to Play Components?
- Soft Contained Play Structures

Further Information

Copies of the play area accessibility guidelines and further technical assistance can be obtained from the U.S. Access Board, 1331 F Street, NW, Suite 1000, Washington, DC 20004-1111; 800-872-2253, 800-993-2822 (TTY), pubs@access-board.gov. Hard copies or alternate formats of this document are also available upon request.

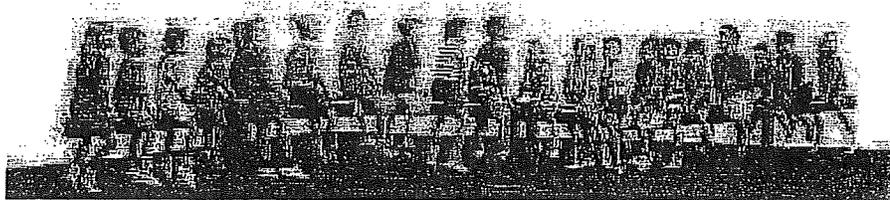
Acknowledgments

The Access Board would like to thank the following manufacturers for their generous assistance: Bob Leathers, Columbia Cascade, GameTime, KOMPAN, Landscape Structures, Little Tikes, Miracle, Olympic Recreation, Playworld Systems, and Recreation Creations. This manual was developed in part through a contract with KOMPAN, Inc., 50 Commercial Drive, Johnson City, New York 13790.

next 

SUMMARY

This guide is intended to help designers and operators in using the accessibility



guidelines for play areas. These guidelines establish minimum accessibility requirements for newly constructed and altered play areas. This guide is not a collection of playground designs. Rather, it provides specifications for elements within a play area to create a general level of usability for children with disabilities. Emphasis is placed on ensuring that children with disabilities are generally able to access the diversity of components provided in a play area. Designers and operators are encouraged to exceed the guidelines where possible to provide increased accessibility and opportunities. Incorporating accessibility into the design of a play area should begin early in the planning process with consideration to layout, circulation paths, and the selection of play components.

The play area guidelines were developed with significant public input and carefully considered the balancing of costs, safety, and accessibility. The Access Board sponsored a Regulatory Negotiation Committee to develop proposed guidelines. The public was given an opportunity to comment on the proposed guidelines and the Access Board made changes to the proposed guidelines based on the public comments. The Regulatory Negotiation Committee represented the following groups and associations:

- American Society of Landscape Architects
- ASTM Public Playground Committee
- ASTM Soft Contained Play Committee
- ASTM Playground Surfacing Systems Committee
- International Play Equipment Manufacturers Association
- National Association of Counties
- National Association of Elementary School Principals
- National Child Care Association
- National Council on Independent Living
- National Easter Seal Society
- National League of Cities
- National Parent-Teacher Association
- National Recreation and Park Association
- Spina Bifida Association of America
- TASH
- United Cerebral Palsy Association
- U.S. Access Board

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PLAY AREA TERMS

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Many terms are used throughout this guide to describe the play area guidelines. Familiarity with these terms is important when applying the guidelines. Other definitions are provided in ADAAG Section 3.5.

Access Board - An independent Federal agency that develops accessibility guidelines under the ADA and other laws. The Access Board is also known as the Architectural and Transportation Barriers Compliance Board.

Accessible - Describes a site, building, facility, or portion thereof that complies with the play area guidelines.

Accessible Route - A continuous unobstructed path connecting all accessible elements and spaces of a building or facility. Inside the boundary of the play area, accessible routes may include platforms, ramps, elevators, and lifts. Outside the boundary of the play area, accessible routes may also include parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps, and lifts.

ADA - Americans with Disabilities Act.

ADAAG - Americans with Disabilities Act Accessibility Guidelines.

Alteration - An alteration is a change to a building or facility that affects or could affect the usability of the building or facility or part thereof. Alterations include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, resurfacing of circulation paths or vehicular ways, changes or rearrangement of structural parts or elements, and changes or rearrangement in the plan configuration of walls and full-height partitions. Normal maintenance is not an alteration unless it affects the usability of the facility (see section on alterations for more details).

Amusement Attraction - Any facility, or portion of a facility, located within an amusement park or theme park, that provides amusement without the use of an amusement device. Examples include, but are not limited to, fun houses, barrels, and other attractions without seats.

ASTM - American Society for Testing and Materials.

Berm - A sloped surface at ground level designed to ascend or descend in elevation.

Clear - Unobstructed.

Clear Floor Space - The minimum unobstructed floor or ground space required to accommodate a single, stationary wheelchair and occupant.

Composite Play Structure - Two or more play structures attached or functionally linked, to create one integral unit that provides more than one play activity (ASTM F 1487-98).

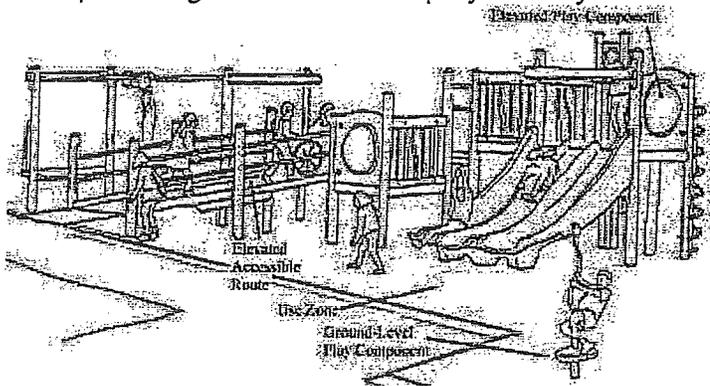
Cross Slope - The slope that is perpendicular to the direction of travel (see running slope).

Elevated Play Component - A play component that is approached above or below grade and

that is part of a composite play structure consisting of two or more play components attached or functionally linked to create an integrated unit providing more than one play activity.

Facility - All or any portion of buildings, structures, site improvements, complexes, equipment, roads, walks, passageways, parking lots, or other real or personal property located on a site.

Ground Level Play Component - A play component that is approached and exited at the ground level.



Play Area - A portion of a site containing play components designed and constructed for children.

Play Component - An element intended to generate specific opportunities for play, socialization, or learning. Play components may be manufactured or natural, and may be stand alone or part of a composite play structure.

Ramp - A walking surface that has a running slope of greater than 1:20.

Running Slope - The slope that is parallel to the direction of travel (see cross slope).

Site - A parcel of land bounded by a property line or a designated portion of a public right-of-way.

Soft Contained Play Structure - A play structure made up of one or more components where the user enters a fully enclosed play environment that utilizes pliable materials (e.g., plastic, netting, fabric).

Use Zone - The ground level area beneath and immediately adjacent to a play structure or piece of equipment that is designated by ASTM F 1487 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use for unrestricted circulation. This is the play surface upon which it is predicted a user would land when falling from or exiting the equipment.

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WHERE DO THE PLAY AREA GUIDELINES APPLY?

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New Construction

The play area guidelines in this guide apply to all newly designed or constructed play areas for children ages 2 and older. This includes play areas located in a variety of settings: parks, schools, childcare facilities, shopping centers, and public gathering areas. Owners or operators of newly constructed play areas are responsible for complying with these guidelines.



The play area guidelines do not apply to:

- Family childcare facilities where the proprietor resides
- Amusement attractions
- Religious entities

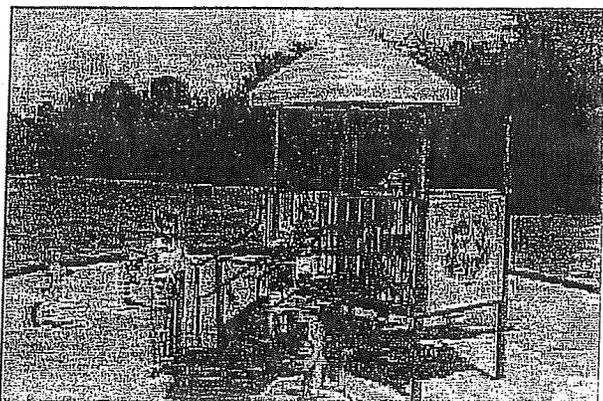
Alterations

The play area guidelines apply to alterations made to existing play areas that affect, or could affect, the usability of the play area. Examples include removing a climbing play component and replacing it with a spring rocker, or changing the ground surfacing.

Alterations provide an opportunity to improve access to existing play areas. Where play components are altered and the ground surface is not, the ground surface does not have to comply with the ASTM F 1951-99 standard for accessible surfaces unless the cost of providing an accessible surface is less than 20 percent of the cost of the alterations to the play components.

If the entire ground surface of an existing play area is replaced, the new ground surface must provide an accessible route to connect the required number and types of play components. Normal maintenance activities such as replacing worn ropes or topping off ground surfaces are not considered alterations.

If play components are relocated in an existing play area to create safe use zones, the guidelines do not apply, provided that the ground surface is not changed or extended for more than one use zone. Replacing the entire ground surface does not require the addition of more play components.



This play area was altered by adding two spring rockers (background). The seat of at least one spring rocker is between 11 inches (280 mm) and 24 inches (610 mm) maximum, and clear floor or ground space and maneuvering space is provided. If the ground surface is replaced in the future, an accessible route would have to be provided to the spring rocker.

Equivalent Facilitation

Section 2.2 of ADAAG states:

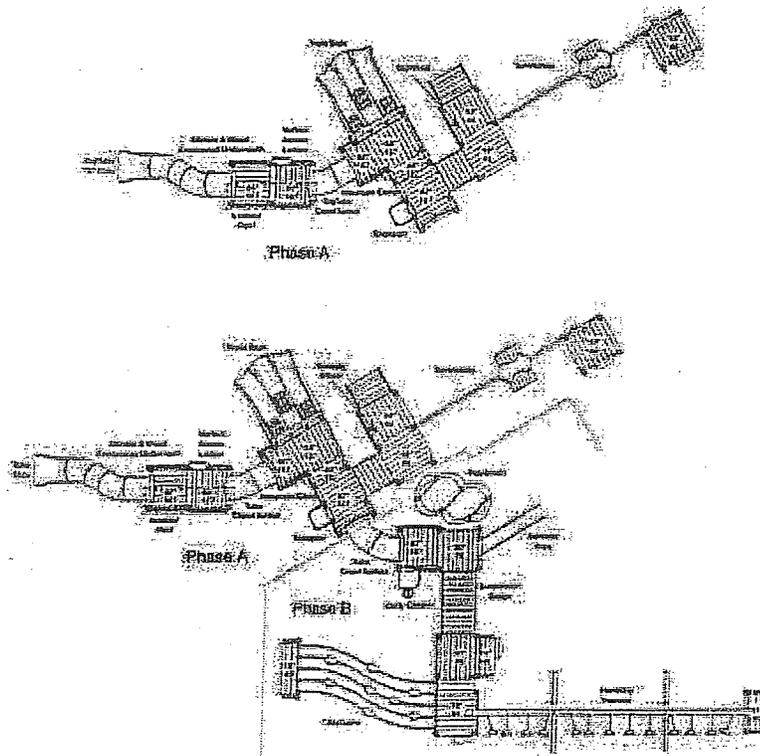
"Departures from particular technical and scoping requirements of this guideline by the use of other designs and technologies are permitted where the alternative designs and technologies used will provide substantially equivalent or greater access to and usability of the facility."

Equivalent facilitation is the concept of utilizing innovative solutions and new technology, design, or materials in order to satisfy the guidelines. These alternative solutions provide equal access and take advantage of new developments, but may differ technically from specific guidelines.

Phasing in Play Areas

When play areas are constructed in phases, they must continue to meet the play area guidelines throughout construction. The initial phase area must meet the guidelines, and then at each successive phase the whole play area must be reassessed to assure compliance.

"Phased Designs" are play areas developed to be installed in different stages, allowing the play area to grow in a planned manner while accommodating budgets, fund raising, or community approval processes. The play area shown below will be installed in two phases. As each phase is completed, the entire play area must be reevaluated for compliance.



Play Areas Separated by Age

To reduce the risk of injury, safety guidelines recommend separate play areas for different age groups. In applying the guidelines, play areas designed for different age groups should be considered separately. A play area designed for 2- to 5-year-olds is considered separate from one for 5- to 12-year-olds. Therefore, compliance with the guidelines must be considered for each individual play area.

Geographically Separated Play Areas

Large geographical spaces may contain several play areas within one park setting. Where play areas are geographically separated on a site, they are considered separate play areas. The accessibility guidelines apply to each play area.

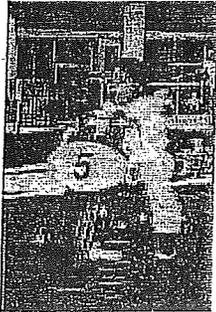
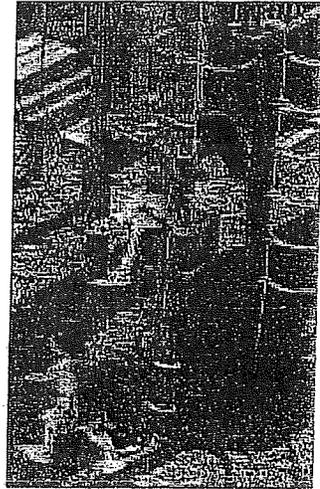
[◀ back](#)  [next ▶](#)

WHAT IS A PLAY COMPONENT?

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Play Components

A play component is an element designed to generate specific opportunities for play, socialization, and learning. Play components may be manufactured or natural, and may be stand alone or part of a composite play structure. Swings, spring riders (below), water tables, playhouses, slides, and climbers (right) are among the many different play components.



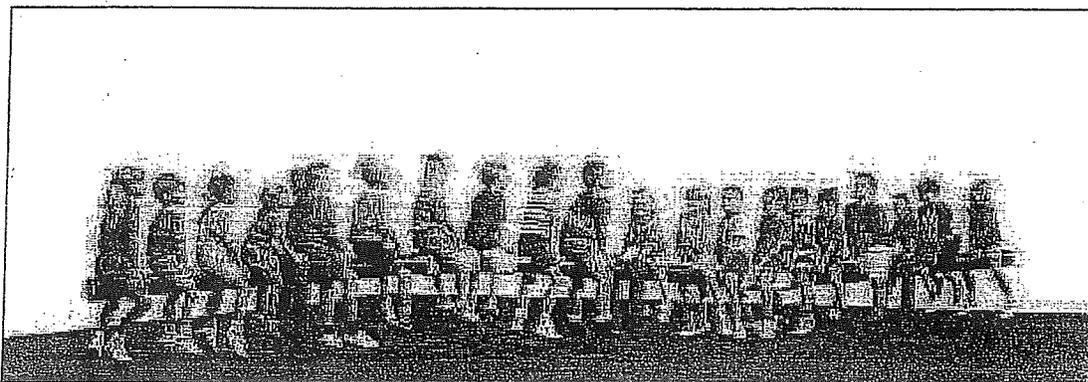
For the purpose of the guidelines, ramps, transfer systems, steps, decks, and roofs are not considered play components. These elements are generally used to link other elements on a composite play structure. Although socialization and pretend play can occur on these elements, they are not primarily intended for play.

When applying the play area guidelines, it is important to identify the different play experiences play components can provide.

Different "Types"

At least one of each type of play component provided at ground level in a play area must be on the accessible route. Different "types" of play components are based on the general experience provided by the play component. Different types include, but are not limited to, experiences such as rocking, swinging, climbing, spinning, and sliding.

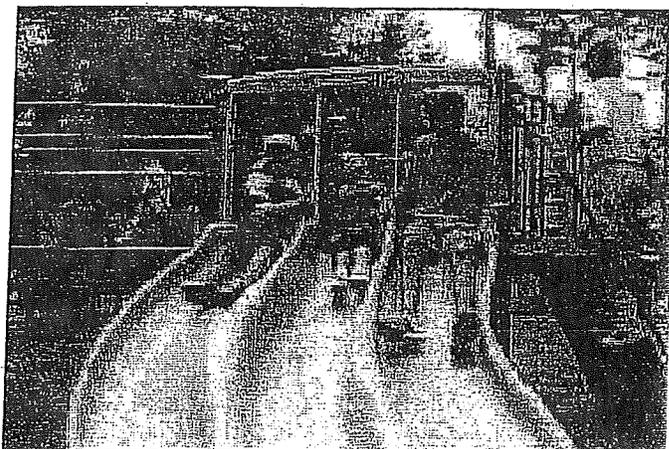
"Rocking" is an example of horizontal movement that can be backwards, forwards, sideways or even circular in nature. "Sliding" is an example of rapid descent that utilizes the force of gravity.



This single play component provides one type of play experience for multiple individuals.

The number of individuals who can play on a play component at once does not determine the quantity of play components provided in a play area. A play component can hold many children but is considered one type of play experience - or one play component - in the play area.

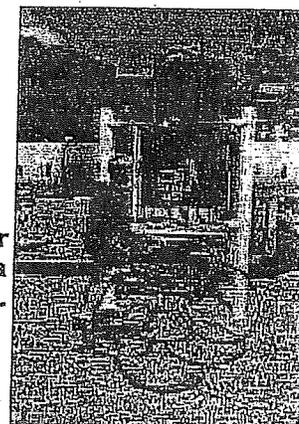
Examples of Sliding Types



While a spiral slide (right) provides a slightly different experience from a straight slide (left), the primary experience - a sense of rapid descent or sliding - is common to both activities. Therefore, a spiral slide and a straight slide are considered one "type" of play experience.

Elevated Play Components

An elevated play component is a play component that is approached above or below grade and is part of a composite play structure. Play components that are attached to a composite play structure and that can be approached from a platform or deck area are considered elevated play components.



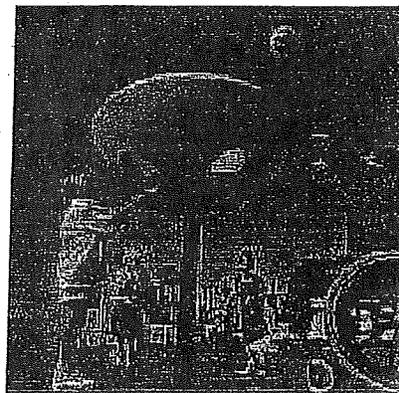
This climber is considered an elevated component since it can be approached or exited from the ground level or above grade from a platform or deck on a composite play structure.

Ground-Level Play Components

Ground-level play components are items that can be approached and exited at ground level. For example, a child approaches a spring rider at ground level via the accessible route. The child may ride then exit directly back onto the accessible route. The activity is considered ground level because the child approaches and exits it from the ground-level route.

"Ground-level components" are approached and exited at ground level. Ground-level play components may include items such as swings, spring riders, and panels. Freestanding slides are considered ground-level components for the purpose of these guidelines. An accessible route must connect to the ladder or steps, and to the exit of the slide. While this solution does not provide access for all children, it gives many individuals the opportunity to access play components.





Ground-level play components may be part of a composite structure (left) or may also be free-standing in a play area (right).

When more than one ground-level play component is required on an accessible route, the play components must be integrated. Designers should consider the optimal layout of ground-level play components to foster interaction and socialization among all children. Grouping all ground-level play components accessed by children with disabilities in one location does not constitute integration.

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HOW MANY PLAY COMPONENTS MUST BE ON AN ACCESSIBLE ROUTE?

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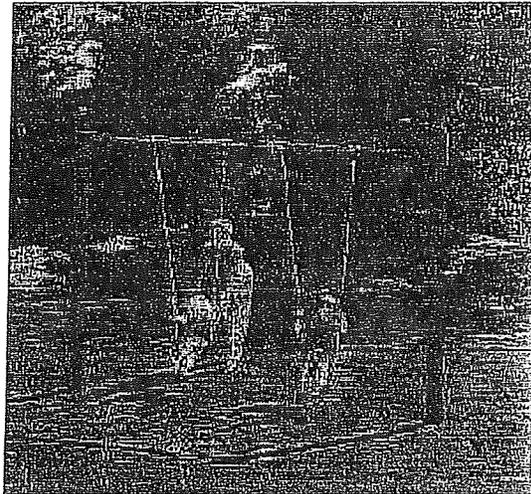
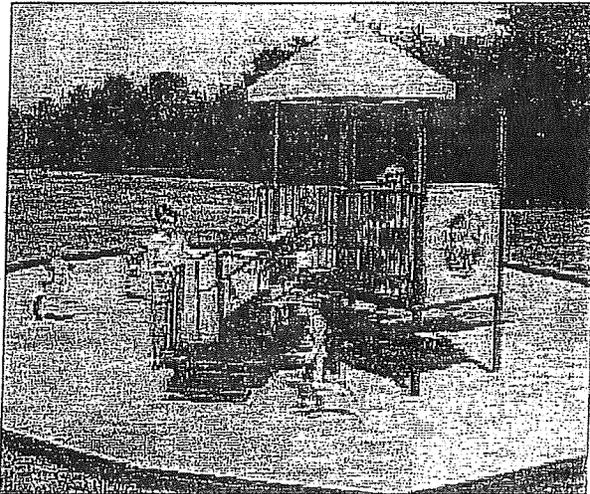
Ground-Level Play Components

There are two requirements addressing how many ground-level play components must be on an accessible route:

- One of Each Type
- Ground-Level Requirements based on the number of Elevated Play Components

One of Each Type

At least one of each type of ground-level play component that is present in the play area must be on an accessible route.



To meet the requirement, for example, in the case of a play area including a composite play structure, two spring riders (left) and a swing set (right), an accessible route must connect to at least one spring rider and one swing for one of each type of ground-level play experiences that is present in the play area.

Ground Level Requirements Based on Elevated Play Components

The number and variety of ground-level play components required to be on an accessible route is also determined by the number of elevated components provided in the play area.

The intent of this requirement is to provide a variety of experiences for individuals who choose to remain with their mobility devices, or choose not to transfer to elevated play components.

| Table 15.6.2.2 (text version) | | |
|---|---|--|
| Number of elevated play components provided | Minimum number of ground-level play components required to be on accessible route | Minimum number of different types of ground-level play components required to be on accessible route |

| | | |
|--------------|---|----------------|
| 1 | Not applicable | Not applicable |
| 2 to 4 | 1 | 1 |
| 5 to 7 | 2 | 2 |
| 8 to 10 | 3 | 3 |
| 11 to 13 | 4 | 3 |
| 14 to 16 | 5 | 3 |
| 17 to 19 | 6 | 3 |
| 20 to 22 | 7 | 4 |
| 23 to 25 | 8 | 4 |
| More than 25 | 8 plus 1 for each additional 3 over 25, or fraction thereof | 5 |

If ramps provide access to at least 50 percent of the elevated play components - which must include at least three different play types - then additional ground-level components are not required.

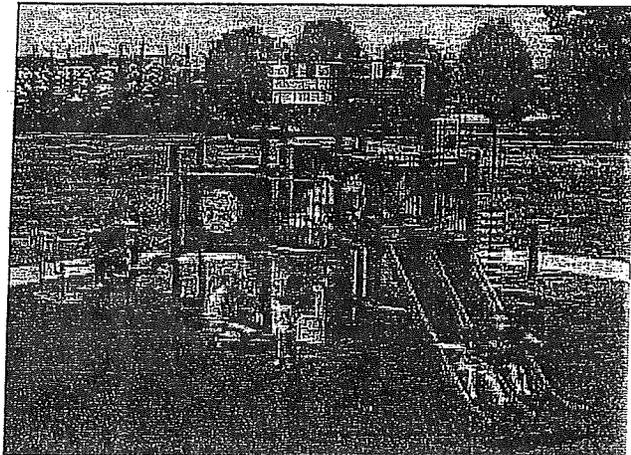
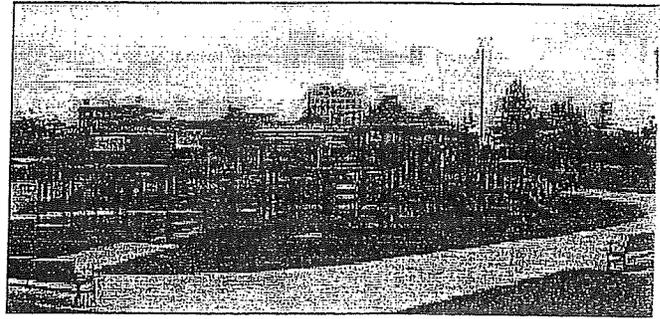
An example: the composite structure of a play area has four elevated play components (bubble panel, slide, steering wheel, and tic-tac-toe panel). According to the table, a minimum of one ground level play component must be provided, and a minimum of one different type. The spring rider or swing can be used to meet the "one of each type" requirement and can also be used to meet the minimum number determined by Table 15.6.2.2.

The number of ground-level components determined by "one of each type" can also fulfill the minimum ground level requirement that is indicated by the elevated play components table.

Elevated Play Components

At least 50 percent of the elevated play components must be on an accessible route. An "elevated play component" is a play component reached from above or below grade, and is part of a composite play structure.

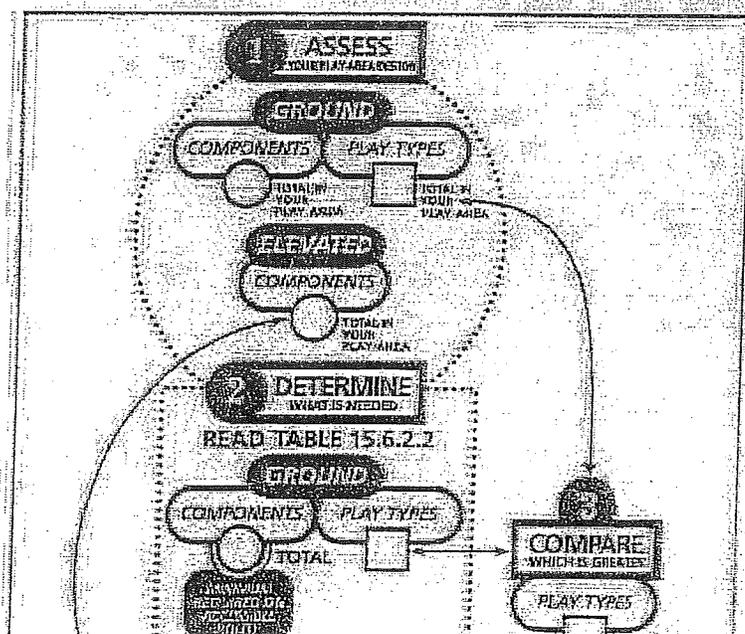
Play areas with 20 or more elevated components (right) must use ramps to connect a minimum of 25 percent of those components. A transfer system or ramps may connect the other elevated play components required on an accessible route.



Play areas with less than 20 elevated play components (left) may use a transfer system instead of ramps to connect at least 50 percent of the elevated components.

Step-by-Step Guide

The following step-by-step guide has been provided to assist in evaluating a play area for meeting the minimum requirements of these guidelines. The guide has been arranged in four steps and provides spaces to fill in numeric values of play components for evaluating a specific play area design.



STEP 1 Assess your play area design

This step identifies the number and different types of ground level play components provided in a play area design. The number of elevated play components is also identified.

STEP 2 Determine what is needed

In some cases, the accessibility guidelines will require additional play components to be provided to meet the minimum requirements. Step 2 begins identifying what is needed by reading Table 15.6.2.2. Table 15.6.2.2 establishes a minimum level of ground level play components required to be on

an accessible route, based on the number of elevated play components provided.

STEP 3 Compare which is greater

Step 3 compares your results in identifying the number and different types of ground level play components with those required by Table 15.6.2.2. The greater number is considered to be the minimum number of ground level play components required to be on an accessible route.

STEP 4 Assess how to get there

Step 4 examines the number of elevated play components provided, beginning with the number established in step 1. Once the number of elevated play components provided is identified, step 4 defines the type of route to be provided to connect to these elevated play components. Where 20 or more elevated play components are provided, ramps must connect to a minimum of 25% of the elevated play components. Ramp or transfer systems must connect to the remaining 25%. If 19 or fewer elevated play components are provided, transfer systems must connect to a minimum of 50% of the elevated play components.

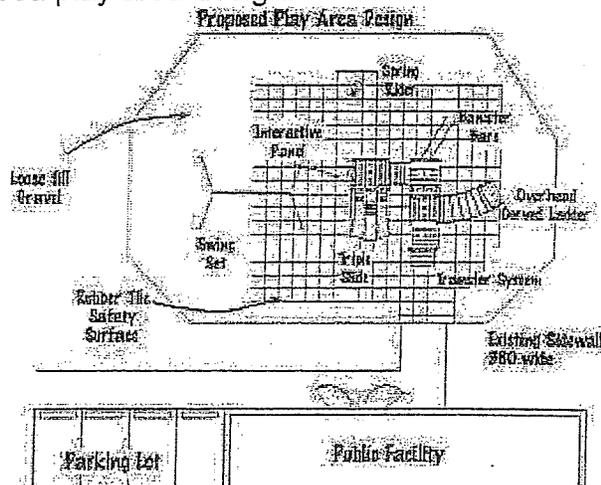
This step-by-step guide is applied using the proposed play area design.

STEP 1 Number of ground level play components: 3

- 1 spring rider
- 2 swings

Number of different types of ground level play components provided: 2

- spring rider
- swing



STEP 2 Determining what is needed based on Table 15.6.2:

| Table 15.6.2.2 (text version) | | |
|---|---|--|
| Number of elevated play components provided | Minimum number of ground-level play components required to be on accessible route | Minimum number of different types of ground-level play components required to be on accessible route |
| 1 | Not applicable | Not applicable |
| 2 to 4 | 1 | 1 |
| 5 to 7 | 2 | 2 |

STEP 3 Determining the greater number: 2

In this case, 2 types were provided. Table 15.6.2.2 requires a minimum of 1.

STEP 4 Assessing how to get there:

Number of elevated = 4 (1 triple slide, 1 interactive panel, 1 overhead curved ladder, 1 banister bars)

50% = 2

Transfer access required to 2 elevated play components as a minimum

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WHAT ARE THE REQUIREMENTS FOR ACCESSIBLE ROUTES?

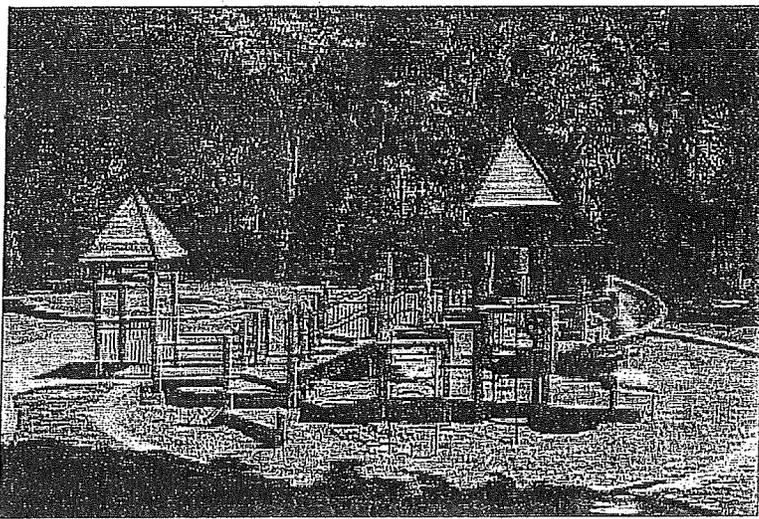
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ADAAG Section 4.3 addresses accessible routes that connect the play area to the school, parking lot, or facility that it serves. Operators or owners of play areas are subject to all the other requirements of the ADA, including the obligation to provide individuals with disabilities an equal opportunity to enjoy the play area provided by that facility.

This section describes the various features of accessible routes within a play area, including location, clear width, slope, and accessible surfaces.

Accessible Routes

An accessible route is a pathway specifically designed to provide access for individuals with disabilities, including those using wheelchairs or mobility devices.

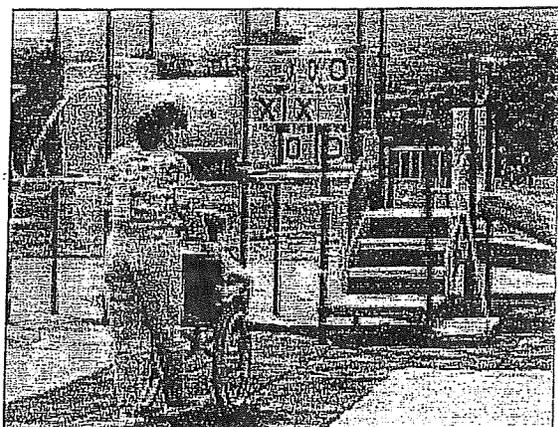


Accessible routes inside the boundaries of play areas are addressed in the play area guidelines. Technical provisions address width, slope, and surface of both ground level and elevated accessible routes.

The accessible route must connect all entry and exit points of accessible play components. Clear floor space required at play components and maneuvering space can overlap the accessible route. Incorporating additional circulation space around high-use play components creates extra room for movement and accessibility for everyone using the play area.

There are two types of accessible routes:

- Ground-level
- Elevated



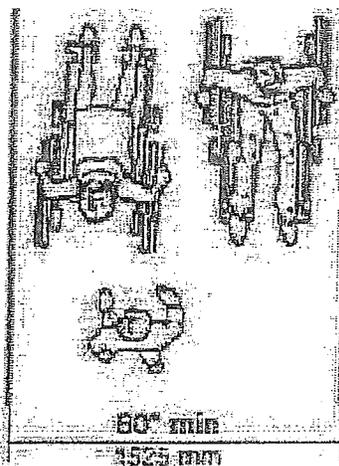
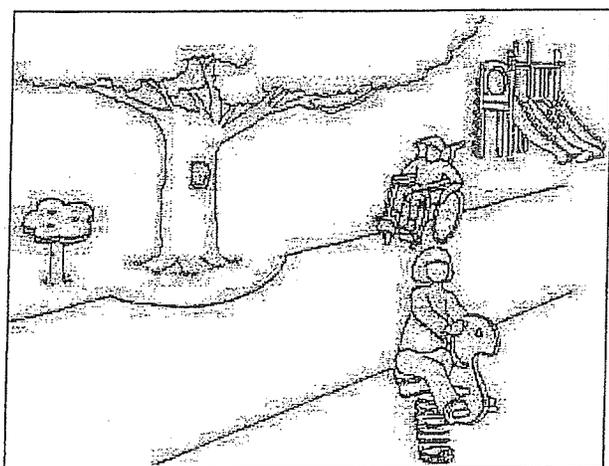
This ground-level route (above) connects ground components and the transfer system which connects elevated components. This elevated route (right) connects elevated play components on a composite structure.

Ground-Level Accessible Routes

A ground-level accessible route connects play components at ground level.

- 60 inches (1525 mm) minimum clear width
- 1:16 maximum slope

The route may narrow down to 36 inches (915 mm) for a distance of 60 inches (1525 mm). This permits flexibility to work around site design features like existing equipment or trees (left). The required 60-inch width enables two wheelchairs to pass each other or to change direction (right).

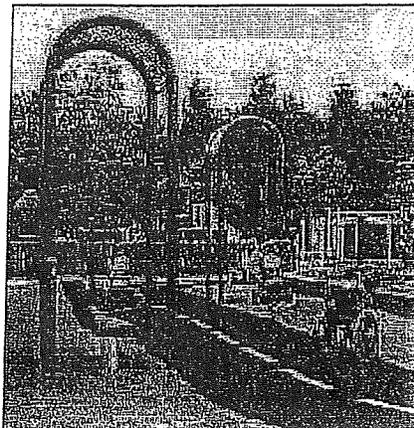


Smaller play areas - those that are less than 1,000 square feet (304.8 square meters) - may have ground-level accessible routes that are 44 inches (1120 mm) clear width. A wheelchair turning space must be provided where the route exceeds 30 feet (9.14 mm) in length.

At ground level, objects may not protrude into the 60-inch wide space of an accessible route up to or below the height of 80 inches (2030 mm), measured above the accessible route

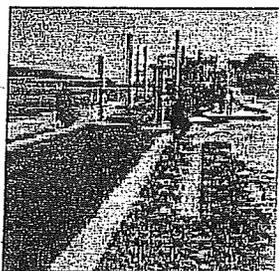
surface. The 80-inch clearance applies only to the 60-inch accessible route, and is not required for the entire play area. The 80-inch vertical clearance applies to ground-level routes only, and not elevated routes. This allows features like protective roofs and sun shelters to be present.

This play area provides a fun, accessible roadway theme. The protective shelters for the benches have been set outside the boundary of the route, providing the 80 inches of clearance required on the route.



Maximum Slope at Ground Level

The maximum allowable slope for a ground-level accessible route is 1:16.



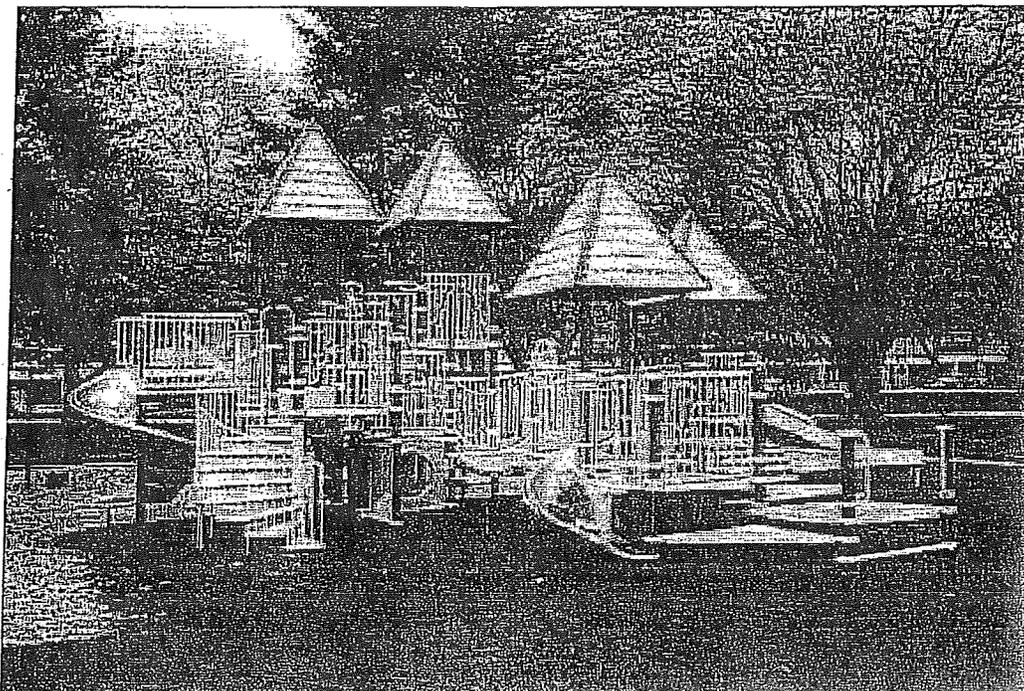
Designers are encouraged to consider edge protection and handrails on berms where there may be a drop-off. Remember the maximum slope of this "ground-level accessible route" is 1:16. Berms (sloped surfaces at ground level, designed to ascend or descend in elevation) are sometimes used to provide access to elevated play areas. A berm may be a natural sloped surface that is present in a hilly play area site, or a ground-level route built with slopes.

However, handrails are not required on ground-level accessible routes. This is permitted since the handrails may become a safety hazard in the "use zone."

Accessible Ground Surfaces

Ground surfaces along accessible routes, clear floor or ground spaces, and maneuvering spaces, must comply with the American Society for Testing and Materials (ASTM) F 1951-99 Standard Specification for Determination of Accessibility to Surface Systems Under and Around Playground Equipment. This standard assesses the accessibility of a surface by measuring the work an individual must exert to propel a wheelchair across the surface. The standard includes tests of effort for both straight-ahead and turning movements, using a force wheel on a rehabilitation wheelchair as the measuring device. To meet the standard, the force required must be less than that which is required to propel the wheelchair up a ramp with a slope of 1:14.

When selecting ground surfaces, operators should request information about compliance with the ASTM F 1951-99 standard.

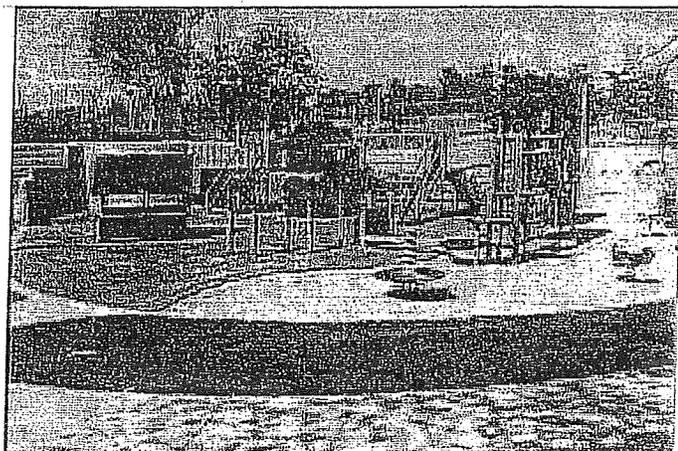


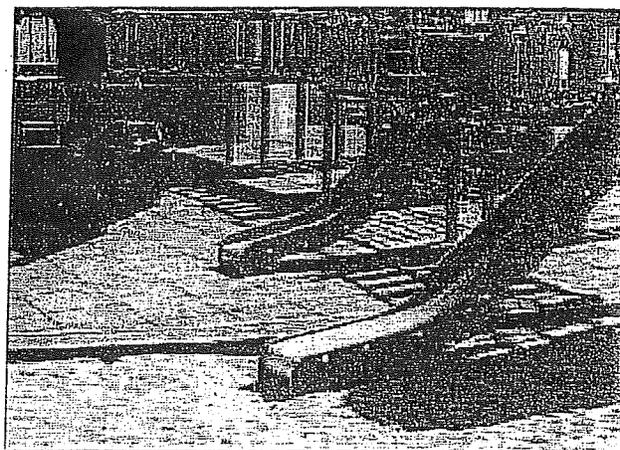
Accessible surfaces can include impact-attenuating tiles made of recycled rubber and engineered wood fiber that meet the ASTM requirements for accessibility and safety. Safety is not compromised for individuals using the play area where both standards are used.

The American Society for Testing and Materials (ASTM) has established safety standards for play areas, including resilient surfaces. For further information or to purchase these standards, contact ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, www.astm.org.

Accessible Surfaces Located In The Use Zone

If located within the use zone, accessible ground surfaces must also be impact attenuating and meet ASTM F 1292-99 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment. The "use zone" is a ground level area beneath and immediately adjacent to a play structure or piece of equipment that is designated for unrestricted circulation around the equipment. It is predicted that a user would fall and land or exit the equipment on the surface of the use zone.

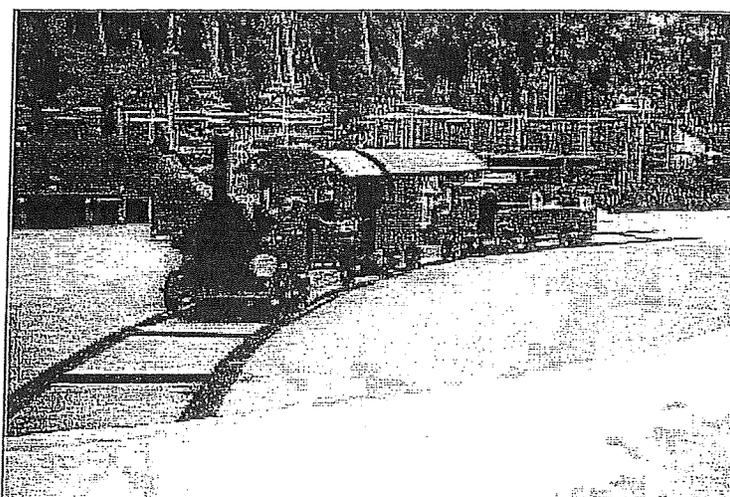




Accessible and non-accessible surfaces can be combined to provide variety and excitement in the play area.

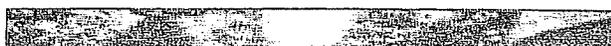
Ground surfaces must be inspected and maintained regularly and frequently to ensure continued compliance with the ASTM F 1951-99 standard. The frequency of maintenance and inspection of resilient surfacing depends on the amount of use and the type of surfacing installed.

Accessible surfacing can be designed to complement the theme of the play area, while providing full access and visually integrating the surface into the overall design. Individuals of all abilities will enjoy the added benefits of an imaginative design.



Engineered wood fiber surfaces will require frequent maintenance to comply with the ASTM F 1951-99 standard because of surface displacement due to user activity or other factors. Designers and operators are likely to choose materials that best serve the needs of each play area. The type of material selected will affect the frequency and cost of maintenance.

At the time of this publication, rubber surfacing and some engineered wood fiber products meet the ASTM F 1951-99 standard. The fact that a specific product meets the ASTM 1951-99 standard does not necessarily mean that all other similar products will meet the standard. Operators interested in selecting surfaces to comply with the play area guidelines should consult individual product manufacturers to determine compliance with ASTM F 1951-99.



Elevated Accessible Routes

An elevated accessible route is the path used for connecting elevated play components. Elevated accessible routes must connect the entry and exit points of at least 50 percent of the elevated play components provided in the play area. Two common methods for providing access to elevated play components are ramps and transfer systems. Ramps are the preferred method since not all children who use wheelchairs or other mobility devices may be able to use - or may choose not to use - transfer systems.

A typical elevated accessible route might include the following:

- 36-inch (915 mm) clear width
- 32-inch (815 mm) narrowed width permitted for 24-inch (610 mm) length to accommodate features in the composite structure
- 12-inch (305 mm) rise maximum per ramp run
- Top of handrail gripping surfaces shall be 20 inches (510 mm) minimum to 28 inches (710 mm) maximum above the ramp surface

When Ramps Are Required

Ramps are required on composite structures with 20 or more elevated play components and must connect to at least 25 percent of the elevated play components. Ramps allow individuals who use wheelchairs and mobility devices to access elevated play components in composite play structures without transferring.



This play area has more than 20 play components and provides ramp access to elevated play components. The ramp system, consisting of ramp runs and landings, must connect at least 25 percent of the elevated play components. The balance of the elevated play components required to be on an accessible route may be connected by the ramp system, or by a transfer system.

Rise of a ramp is the amount of vertical distance the inclined or slanted surface ascends or descends. A ramp *run* is a length of a continuous sloped surface that is ascending or descending. For example, to reach a 12-inch high deck or platform, a designer could use a 12-foot ramp with the maximum 1:12 slope, or a 14-foot ramp with a less-steep 1:14 slope.

Platform lifts, also known as "wheelchair lifts," may be considered for providing access to elevated play components when appropriate. Where applicable, platform lifts complying with ADAAG section 4.11 and applicable state and local codes are permitted as a part of an accessible route. Because lifts must be independently operable, owners and operators should carefully consider the appropriateness of their use in unsupervised settings.

Ramps

Ramps serve as a continuation of the accessible route from the ground allowing individuals who use mobility

devices to access elevated components. For each elevated ramp run:

- 12-inch (305 mm) maximum rise
- 1:12 maximum slope
- 36-inch (915 mm) minimum clear width



Landings

Landings are the level surfaces at the top and bottom of each ramp run.

- Must be as wide as the ramp they connect to
- A minimum length of 60 inches (1525 mm)
- If ramps change direction, the minimum landing size must be 60 inches (1525 mm) wide to accommodate a turn

Maneuvering Space Where Ramps are Provided

At least one maneuvering space must be provided on the same level as the play component. The space must have a slope no steeper than 1:48 in all directions. ADAAG Section 4.8 addresses additional requirements for ramps and landings including edge protection, cross slope, surfaces, and outdoor conditions.

Handrails

Handrails are required on both sides of ramps connecting elevated play components. Handrails must be:

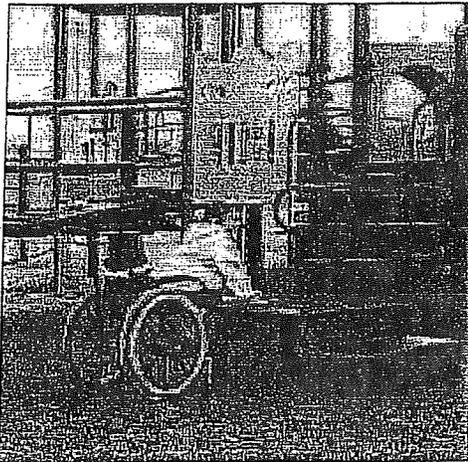
- 0.95 (24.1 mm) to 1.55 inches (39.4 mm) diameter or width, or equivalent gripping surface
- 20 (510 mm) to 28 inches (710 mm) maximum above the ramp surface, measured to the top



of the handrail surface

Handrails are required to comply with ADAAG 4.8.5. However, extensions on handrails in the play area are not required. This is to prevent children running into protruding rails in the play area.

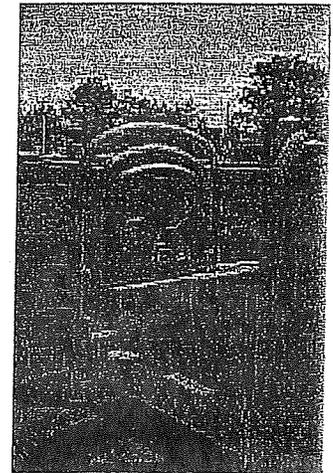
When Transfer Systems Are Used



A transfer system provides access to elevated play components within a composite system by connecting different levels with transfer platforms and steps. A transfer system provides access to elevated play components without the use of a wheelchair or mobility devices. At least 50 percent of the elevated play components can be connected by a transfer system in play areas with fewer than 20 elevated components. In play areas with 20 or more elevated play components, transfer systems may be used to connect up to 25 percent of the elevated play components and the rest of the elevated play components required to be on an accessible route must be connected by a ramp.

A transfer system typically consists of a transfer platform, transfer steps, and transfer supports.

Where a transfer system is provided, such a combination of transfer platforms and transfer steps provides a continuous accessible route to elevated play components. A transfer system provides individuals the space necessary to physically transfer up or down in a composite play structure. Where provided, a 24-inch (610 mm) minimum width is necessary for individuals moving around a structure.



Consider the distance someone must travel to reach play components accessed by transfer systems. When a transfer system is placed directly next to a slide, for example, access to the elevated play component must be carefully designed to minimize the distance someone must transfer to reach it.

Playful features can be part of the transfer system (right), providing interactive experiences from both an elevated or ground level approach.

Transfer Platforms

A transfer platform is a platform or landing that an individual who uses a wheelchair or mobility device can use to lift or transfer onto the play structure and leave the wheelchair or mobility device behind at ground level.

- 11 inches (280 mm) to 18 inches (455 mm) height of top surface
- Minimum 24 inches (610 mm) wide
- Minimum 14 inches (355 mm) deep

- Unobstructed side

Adding a transfer step that leads to the ground's surface increases access for children exiting components at the ground level.

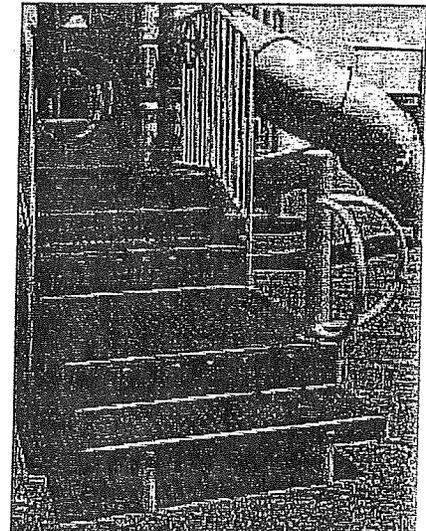
Clear floor or ground space - used for parking wheelchair or mobility devices (commonly called "wheelchair parking") - is required at the transfer platform. The 48-inch long side (1220 mm) of the "wheelchair parking" space must be parallel to the 24-inch (610 mm) side of the transfer platform.

Transfer Steps

Transfer steps are level surfaces in a composite structure that can be used for transferring from different levels to access play components.

- Minimum 24 inches (610 mm) wide
- Minimum 14 inches (355 mm) deep
- 8 inches (205 mm) maximum height

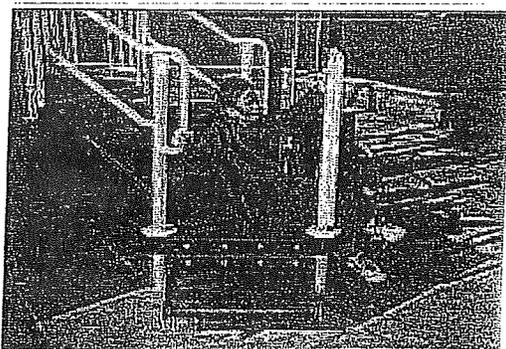
Transfer steps in a play area are not required to satisfy the general ADAAG stair requirements. Maneuvering space and clear space is not required on elevated structures or at elevated play components reached by a transfer system.



Play areas intended for smaller children should provide steps at smaller height increments. This will accommodate smaller sized children who must lift or "bump" up each step.

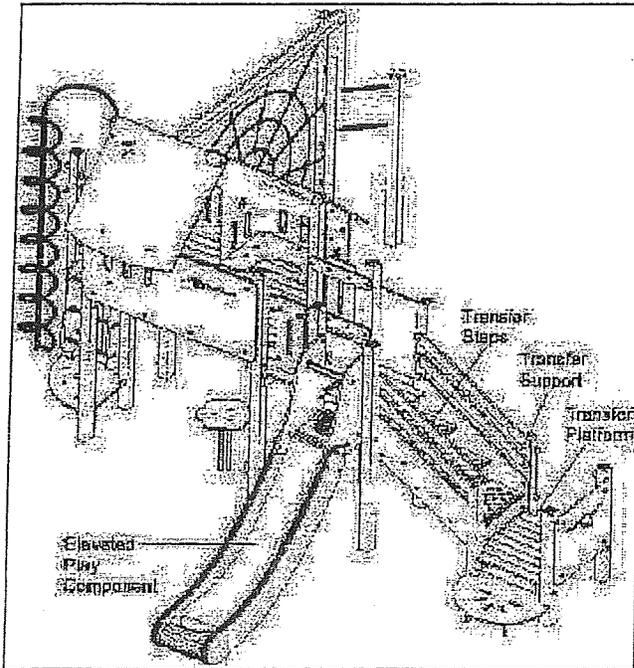
Transfer Supports

A means of support is required when transferring into the entry or seat of a play component. Transfer supports assist individuals with transferring and general mobility. They include handrails, handgrips, or custom designed handholds. Transfer supports must be provided on transfer platforms and transfer steps at each level where transferring is the intended method of access.



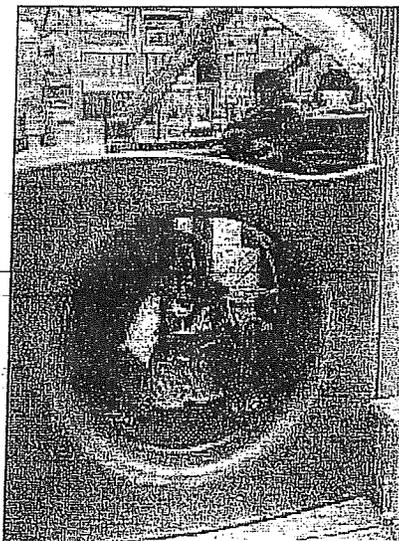
Aesthetically pleasing cutout shapes and other design

enhancements can provide hand supports for transferring. Materials in a variety of different shapes and sizes are used to manufacture transfer supports including metal, plastic, and rope.



Consideration must be given to the distance between the transfer system and the elevated play components it is intended to facilitate. Designers should minimize the distance between the points where a child transfers from a wheelchair or mobility device and the elevated play destination.

This transfer system provides access to exciting elevated play experiences like sliding while minimizing the distance individuals must traverse.



Connected Elevated Components

When transfer systems are used, an elevated play component may connect to other elevated play components, providing an innovative, accessible route.

Consideration should be given to how a play component is utilized when it is selected to connect to other elevated play events. When a transfer system is provided, children move through a play component (such as a crawling tube) using their own strength without a mobility device. Providing variety and excitement through elevated play spaces benefits all children. Tunnels and tubes make "getting there" an activity in itself.

Elevated play components that are connected to other play components count toward fulfilling the requirement for the number of elevated components on an accessible route where transfer systems are used.

WHAT OTHER ACCESSIBILITY REQUIREMENTS APPLY TO PLAY COMPONENTS?

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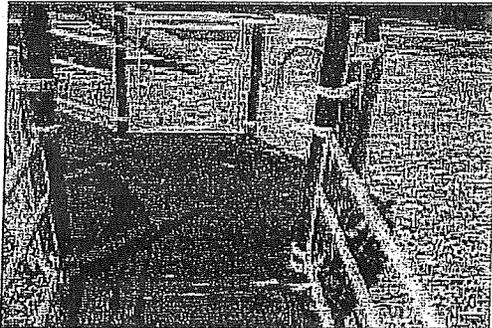
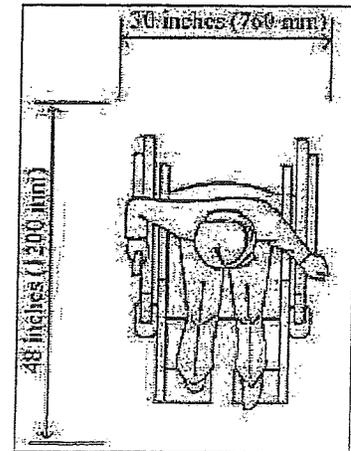
The play area guidelines address accessible routes connecting play components along with certain spaces that are crucial to making a play area usable for children with disabilities. The other requirements for play components are provided to promote general usability, with application to a variety of play components. Additional features will assist in making play components more accessible to more children. Designers are encouraged to consider components with back support, increased space for maneuvering adjacent to the play component, and other features that promote independent use.

Clear Floor or Ground Space

Clear floor space - also known as ground space - provides unobstructed room to accommodate a single stationary wheelchair and its occupant at a play component on an accessible route. Clear floor or ground space is also sometimes called "wheelchair parking space."

- 30-inch (760 mm) by 48-inch (1220 mm) minimum area
- May overlap accessible routes and maneuvering spaces
- Slope not steeper than 1:48 in all directions

Play components come in a variety of shapes and sizes facilitating a broad range of experiences. A specific location for clear floor or ground space has not been designated. Each play component is unique and the spaces must be placed in the best location for the situation.



The clear floor space is permitted to overlap onto the landing area to provide access to this elevated window activity.

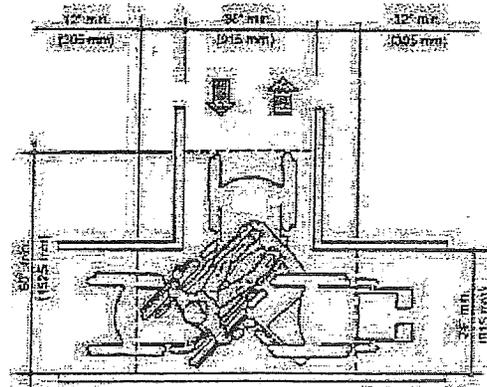
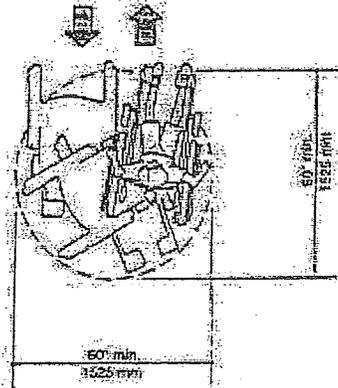
The minimum clear floor or ground space on a composite structure may be positioned for a forward or parallel approach. It may overlap accessible routes and maneuvering spaces. Elevated play components accessed by transfer systems do not require maneuvering or clear floor spaces, since mobility devices are left at ground level.

Maneuvering Space

Maneuvering space is defined as the space required for a wheelchair to make a 180-degree turn. At least one maneuvering space must be provided on the same level as elevated play components.

When providing access to ground level and elevated play components by ramps, space allowances to accommodate wheelchairs and mobility devices are required.

- A 60-inch (1525 mm) turning circle permits individuals with mobility devices to turn around
- A 60-inch (1525 mm) T-Shaped turn allows an individual to change directions by making a series of multi-point turns
- Slope not steeper than 1:48 in all directions



As an example, maneuvering space is required for swings and may be located behind or in front, as long as it is immediately adjacent to the swing. Objects are not permitted to protrude into ground level maneuvering spaces at or below 80 inches (2030 mm) above the ground or floor surface.



Entry Points and Seats

Entry points and seats are features of play components where individuals would transfer, sit, or gain access. When play components are located on an accessible route, the height required to transfer directly to the entry point or seat of a play component has a minimum of 11 inches (280 mm) and a maximum of 24 inches (610 mm). A mid-level height of 18 inches (455 mm) is recommended. The height of the entry point of a slide is not specified.

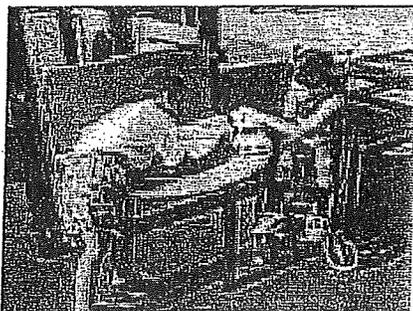


Examples of entry points and seats include swing seats, spring rocker seats, and crawl-tube openings (left). Consider design features like open sides, back supports, and hand supports (right) to help facilitate easy transfer and access.

Play Tables

Play tables are surfaces, boards, slabs, or counters that are created for play. This includes tables designed for sand and water play, gathering areas, and other activities. Where play tables are located on an accessible route, the wheelchair knee clearance minimums are:

- 24 inches (610 mm) high minimum
- 30 inches (760 mm) wide minimum
- 17 inches (430 mm) deep minimum



Play tables designed primarily for children under 5 years old may provide a parallel approach instead of knee clearance if the rim is a maximum of 31 inches (785 mm) high. The tops of rims, curbs, or other obstructions that would prevent access to a table surface should be 31 inches (785 mm) maximum in height.

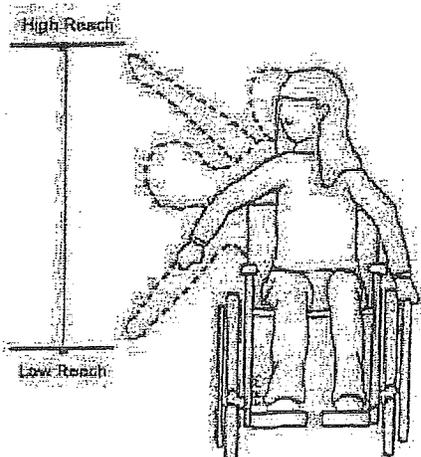
Play tables may be located at a ground or elevated level in a composite play structure. Consider the route, clear floor space and maneuvering spaces for tables intended to be accessible to individuals who use wheelchairs.

Reach Ranges (Advisory)

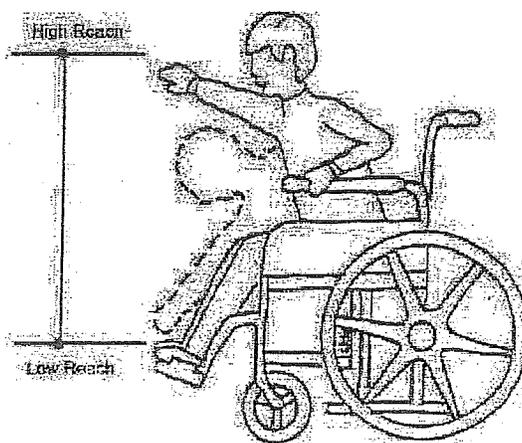
The play area guidelines include advisory information on recommended reach ranges. Reach ranges are the recommended designated regions of space that a person seated in a wheelchair can reasonably extend their arm or hand to touch, manipulate, move, or interact with an object or play component.

Reach ranges should be considered when providing play components with manipulative or interactive features for children who use wheelchairs. Recommended forward or side reach ranges are:

- 20 to 36 inches for 3- to 4-year-olds
- 18 to 40 inches for 5- to 8-year-olds
- 16 to 44 inches for 9- to 12-year-olds



Side Reach



Forward Reach

The reach ranges appropriate for use by children who use wheelchairs to access play components are intended for ground-level components, and elevated components accessed by ramps. Reach ranges are not appropriate for



play components reached by transfer systems. Appropriate reach range heights will vary depending on how the play component is accessed. This interactive panel (right) is mounted at a height appropriate for a child who uses a wheelchair.

The reach ranges in this guide are recommendations that should be considered when designing play components with manipulative features intended for use by individuals who use wheelchairs.

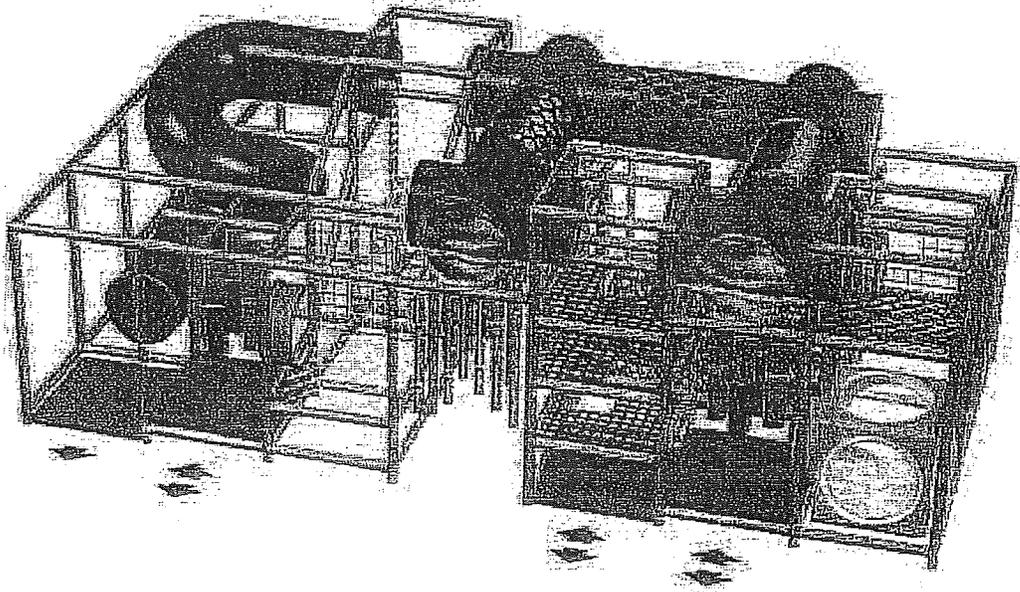
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SOFT CONTAINED PLAY STRUCTURES

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"Soft contained play equipment" is a play structure made of one or more components, on which an individual enters a fully enclosed play environment that uses pliable materials such as plastic, soft padding, and fabric.

Soft contained play structures must provide at least one entry point on an accessible route when three or fewer entry points are provided. If four or more entry points are provided, at least two entry points must be located on an accessible route.



Soft contained play environments typically have limited entrance and exit locations, with play components integrated into the system design. Transfer systems (left) or platform lifts can serve as a part of an accessible route connecting entry points on soft-contained play structures.

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