

I. OVERVIEW OF THE ROAD STANDARDS

A) DEVELOPMENT OF ONE EXISTING PARCEL OF LAND BY CONSTRUCTION OF A HOME OR BUSINESS NOT IN CONJUNCTION WITH A PARTITION OR SUBDIVISION.

Prior to obtaining a permit for construction of a home or business, a road access permit is required from the Road Department. The road access and associated improvements must be constructed according to the Road Standards (or a bond in the amount of 125% of the estimated road work deposited with the County) before the permit will be approved.

The access to the property may consist of several parts:

- 1) Driveway: That section of the access located entirely on the private property and may serve one or two lots or parcels. This driveway section must be constructed according to "Fire Department Driveway Standards", Section II. Only that section of the driveway near the public right-of-way or private easement necessary to construct the access approach will be inspected by the Road Department. The access approach to the public road or private easement must comply with the "Access Approach Standards" (Section III).
- 2) Private or nonexclusive access easement. Access to the property may also be partially located on a private or nonexclusive easement. The access on such easement must be constructed according to "Private Road Standards" (Section IV) to the extent feasible within the limits of the easement. Improvements to roads on easements currently in use by other residents shall be apportioned such that the cost of the necessary improvements to construct the road within the easement will be divided between the potential undeveloped lots and parcels along the easement. Owners of undeveloped properties shall be required to pay or make improvements to the road only after making application to the Land Development Services Office of the County for development of the property. Therefore, it is the intent that the road will be in compliance with the standards to the extent feasible (as determined by the Public Works Director) upon development of all the properties along the easement. Property owners along such easement will be required to construct such improvements up to a maximum expense of \$3,000, in conjunction with development of the property.
- 3) Public Road or County Road Rights-of-way. Access to the property may also be directly onto an existing

public road or County Road. Such existing public right-of-way shall be improved in accordance with the "Development of Existing Public Rights-of-way" standards (Section V) to the extent feasible, as determined by the Public Works Director, within the right-of-way limits.

Development of a public right-of-way currently in use by other residents shall be apportioned proportionate to the maximum buildout of the area such that the cost of the necessary improvements to construct the road within the right-of-way to the public road or County road standards will be divided between the potential undeveloped lots and parcels along the right-of-way. Owners of undeveloped properties shall be required to pay or make improvements to the road only after making application to the Land Development Services Office of the County for development of the property. Therefore, it is the intent that the road will be in compliance to the extent feasible (as determined by the Public Works Director) with the public road or county road standards upon development of all the properties along the right-of-way. Improvements required of a developer of a single lot or parcel to a public or county road that is currently used by other property owners shall be to a maximum expense of \$3,000. Such improvements to the road shall only be required upon application for a development permit for the property from the Land Development Services Office.

Improvements to a public road required of a developer of one existing lot shall not include paving. However, in lieu of paving of a public road, the owner of the existing lot will be required to sign a waiver of remonstrance for creation of a Local Improvement District (LID) for future improvements to the road.

- 4) Placement of utilities within a public road or county road right-of-way, or road improvements to any public road or county road, or placement of any fence, sign or facility within a public road or county road right-of-way requires a separate permit from the Road Department as described in Section I (D) of this guide.

B) PARTITIONS

Partitions create additional parcels of land and potentially additional traffic that may or may not have been anticipated for a roadway.

Prior to final approval of a partition, access improvements will be required as follows:

- 1) Private Roads or Easements. Up to six lots or parcels may be accessed by a private road or easement (more than six parcels may use a private road or easement for access if the parcels are preexisting). Additional parcels shall not be created along a private road or easement if there are currently more than six parcels along the private road or easement or if the partition would result in a total of more than six parcels. Prior to final approval of the partition, the private road or easement must be developed, from the intersection with the public road to the end of the easement or to the limits of the partitioned property (whichever is less), to the "Private Road" standards, Section IV, proportionate to the maximum buildout of the area.

These improvements may be required beyond the limits of the partitioned property. If the standards cannot be achieved, other means of access to the property will be required.

- 2) Creation of New Public Roads. New public roads created in conjunction with a partition shall be improved in accordance with the "Creation of New Public Road" standards (Section VI). The entire length of the new public right-of-way shall be improved according to the standards prior to final approval of the partition.
- 3) Existing Public Road Rights-of-way. Developers of partitions with frontage on existing public roads or county road rights-of-way may be required to make improvements to roads within such rights-of-way beyond the limits of the frontage proportionate to the maximum build of the area. Such improvements shall be made in accordance with the "Development of Existing Public Road" standards (Section V). If such improvements cannot feasibly be constructed, other means of access to the property will be required.

If the improvements to the public road or county road do not require paving, the owner of the property to be partitioned must sign a waiver of remonstrance to creating an LID for future road improvements.

After a partition has been given final approval, each individual parcel will be treated as an existing parcel and additional road improvements will be required as explained in "A" above, which will require a road access permit from the Road Department prior to construction of a home or placement of a modular home.

- 4) Placement of Utilities Within a Public Road Right-of-way. Placement of utilities within a public road or county road right-of-way, or road improvements to any public road or county road, or placement of any fence, sign or facility within a public road or county road right-of-way requires a separate permit from the Road Department as described in Section I (D) of this guide.

C) SUBDIVISIONS

Subdivisions create many additional parcels of land and associated increase in traffic that is usually not anticipated for a roadway.

Access to properties in subdivisions is usually by public roads and county roads. Improvements to such roads will be as follows:

- 1) Creation of New Public Rights-of-way. All new public roads or county roads created in conjunction with a subdivision shall be improved in accordance with the "Creation of a New Public Road" standards (Section VI). The entire limits of the new public right-of-way shall be improved prior to final approval of the subdivision.
- 2) Existing Public Road or County Road Rights-of-way. The section of the existing public road or county road right-of-way adjacent to or within the subdivision (or those sections that are not currently used for residential access but necessary for the subdivision), shall be improved in compliance with the "Creation of New Public Road" standards, Section VI.

Improvements to the existing and currently used public or county roads in the area of the subdivision will be reviewed on a case by case basis to determine the road improvements necessary beyond the limits of the subdivision boundaries (off site improvements), and to be certain that the access roads can be constructed to the new road construction standards of Section VI. If such improvements cannot feasibly be constructed, other means of access to the property will be required. Such off site improvements shall be proportionate to the maximum buildout of the area.

After a subdivision has been given final approval, each individual lot will be treated as an existing lot and roads shall be improved in accordance with "A" above, which will require a road access permit from the Road Department prior to construction of a home or placement of a modular home.

3) Placement of Utilities Within a Public or County Road Right-of-way. Placement of utilities within a public road or county road right-of-way, or road improvements to any public road or county road, or placement of any fence, sign or facility within a public road or county road right-of-way requires a separate permit from the Road Department as described in Section I (D) of this guide.

D) CONSTRUCTION OF UTILITIES, FACILITIES, OR ROADS WITHIN PUBLIC OR COUNTY ROAD RIGHTS-OF-WAY.

Prior to construction of a road within a public road or county road right-of-way, or construction or placement of any utilities, signs or facilities within a public road or county road right-of-way, a permit for such work is necessary from the Road Department.

Even if the Land Development Services Department has approved of a proposed partition or subdivision, prior to any work within an existing or proposed public road or county road right-of-way, a permit must be obtained from the Road Department.

E) SUMMARY OF STANDARDS

The following table is a brief summary of some of the major development standards for the various road classifications:

SUMMARY OF NEW ROAD CONSTRUCTION STANDARDS

Road Classification	Typical ADT	Minimum ROW Width	Base Rock 4" / 3/4"	Surface Type	Surface Width/ Thickness	Bike Lane	Shoulder Width/ Type	Design Speed	Max Super	Max Grade
Driveway	0-10	NA	8" / 2"	Gravel	12'	No	None	NA	4%	12% AVG ⁽⁷⁾
Private ⁽⁸⁾ Road	0-100	40'	8" / 2"	⁽²⁾ Gravel	⁽¹⁾ 20'	No	None	15	4%	12% AVG ⁽⁷⁾
Public Road - Local	0-500	50'	10" / 2"	A.C.	20' / 3"	Note 4	⁽⁵⁾ 3' / Gravel	25	4%	12%
Public Road - Collector	500-1500	60'	12" / 2"	A.C.	24' / 4"	Note 4	⁽⁵⁾ 4' / Gravel	35	6%	10%
County Road - Local	0-500	50'	10" / 2"	A.C.	20' / 4"	Note 4	⁽⁵⁾ 3' / Gravel	25	4%	12%
County Road - Collector	500-1500	60'	12" / 2"	A.C.	24' / 4"	Note 4	⁽⁵⁾ 4' / Gravel	35	6%	10%

- (1) 12 feet for one or 2 residences.
- (2) Paving over 12% average grade.
- (4) If designated.
- (5) 8 feet paved in urban areas.
- (6) 4% in urban areas.
- (7) 17% with paving if approved by the local fire department.
- (8) May access up to 6 parcels.

II. FIRE SERVICE REQUIREMENTS

The Columbia County Fire Service has the authority and responsibility to process requests for review and approval of all fire apparatus access roads and driveways. Outside Rural Fire District boundaries, the Oregon Department of Forestry will have the responsibility and authority to process requests. The Oregon Department of Forestry may request the Fire District to check and approve these roads and driveways.

A) FIRE APPARATUS ACCESS ROADS

Fire apparatus roadways shall be provided so that no portion of an exterior wall of the first story of a structure is located more than 150 feet from an approved fire department vehicle access as measured by an unobstructed route around the exterior of the building. Fire apparatus access roads for outside storage areas shall be provided in accordance with applicable provisions of the Uniform Fire Code or in accordance with nationally recognized standards, see UFC 902.2.1.

Fire apparatus access roads shall be provided as required by the Uniform Fire Code and meet the following conditions:

- 1) All fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround (see Section II.C.8 of this document & UFC 902.2.2.4.
- 2) All fire apparatus access roads shall be at least 20 feet wide, a minimum curve radius of 45 feet and have a clear height of 13 feet, 6 inches and be maintained clear of debris/obstructions, see UFC 902.2.2.1 & 902.2.2.3.
- 3) Grade for fire apparatus access roads shall not exceed an average of 12 percent with a maximum of 15 percent on short distances of no more than 75 feet. Where there are existing conditions, particularly topography, which cause non-negotiable conditions, the Fire Chief may require paving or additional fire protection. This additional fire protection may include an approved fire sprinkler system and/or other fire protection devices as specified in UFC 1001.9 in considering a variance of this interpretation and Fire Code, see UFC 902.2.1.(2)

- 4) Fire apparatus access roads shall be designed and maintained to support loads of fire apparatus and sustain a minimum wheel load of 12,500 pounds and gross vehicle load of 50,000 pounds and be provided with a firm, uniform all-weather driving surface, approved by an Oregon Registered Professional Engineer. Otherwise, written verification of compliance shall be provided by the applicant, see UFC 902.2.2.2.
- 5) Private bridges shall be constructed in accordance with the Uniform Building Code and the American Association of State Highway and Transportation Official specifications and be capable of sustaining a minimum wheel load of 12,500 pounds and a gross vehicle load of 50,000 pounds, and such plans shall bear the stamp and/or seal of an Oregon Registered Professional Engineer. Otherwise, written verification of compliance shall be provided by the applicant, see UFC 902.2.2.5.
- 6) More than one fire apparatus road shall be provided where emergency evacuation, emergency operations could be impaired by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access and evacuation. UFC 902.2.1.

Wherever possible developments must provide two means of access to and from site when serving twenty five or more units (a duplex counts as two units, etc). When two means of access cannot be installed due to topography, waterways, nonnegotiable grades or other similar conditions, the chief is authorized to require additional fire protection as specified in UFC 1001.9 or may require other alternatives such as medians, gated emergency roads, etc.

- 7) Approved signs and/or notices shall be provided and maintained to identify such roads and prohibit the obstruction thereof. They shall comply with the manual or Uniform Traffic Control Devices, 1988 Edition, see UFC 901.4.2. "No Parking" and "Fire Lanes" shall be signed and marked as follows:
 - a) Fire lane markings on curbs or road surface shall be painted bright red with white letters. The stroke shall be 1 inch with letters 6 inches high to read "No Parking Fire Lane". Spacing for signage shall be every 25 feet.
 - b) Vertical signs shall be mounted no lower than 4 feet and no higher than 8 feet.

- c) Vertical signs shall be 12 inches wide by 18 inches high. Signs shall have red letters and border on a white background. The word "NO" shall be presented in a reversed color arrangement in the upper left hand corner. Spacing shall not exceed 25 foot intervals between signs.

B) DRIVEWAY STANDARDS:

It is the purpose of this driveway standard to establish a uniform interpretation of the Uniform Fire Code and to promote the public's health, safety and welfare through the regulation of fire apparatus access roads and driveways as required by the Uniform Fire Code, Article 9, Section 902.1.

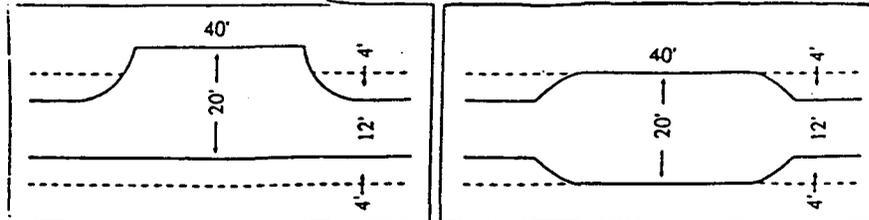
Driveways may serve one or two residences. Driveways beyond the limits of the access approach to a public road, county road, or private road, must comply with the Fire Department Driveway Standards listed below. The Land Development Services Department must receive approval of the proposed road improvements from the Fire Department prior to the issuance of a building permit.

Standards for driveways in excess of 150 feet in length accessing a residence, or any other building over 1000 sq. ft. in size which requires a building permit, shall be provided as required by the Uniform Fire Code 902.2 and shall meet the following conditions.

- 1) Driveways shall be built and maintained to provide a minimum 12 foot width of firm, uniform all-weather surface capable of supporting gross vehicle weights of 50,000 pounds, minimum wheel load of 12,500 pounds and approved by an Oregon Registered Professional Engineer. Otherwise, written verification of compliance shall be provided by the applicant. The 20 foot right-of-way shall consist of a 12 foot firm, uniform all weather travel lane bordered by a 4 foot section on each side which shall be maintained clear of debris and obstructions. Driveways shall have a minimum curve radius of 45 feet and a vertical clearance of 13 feet 6 inches, see 902.2.2.1, 202.2.2.2 and 202.2.2.3.
- 2) Driveways 400 foot long but less than 800 feet shall have a turnout provided at approximately one-half the length of the driveway. Driveways greater than 800 feet will have turnouts provided not greater than 400 feet apart. Wherever visibility is limited, these

distances should be reduced appropriately. Turnouts are generally considered an additional 8-foot wide by 40-foot long portions of the driveway, other forms of turnouts may be accepted with prior approval of the Fire Chief.

Examples:



- 3) Dead-end-driveways are defined as dead-end roads over 150 feet in length serving a single residence. Dead-end-driveways shall have turnarounds such as a cul-de-sac, hammer head etc. as shown in Section II.C.8, see also UFC 902.2.2.4.
- 4) Bridges, culverts, and other structures in the driveway shall be constructed and maintained to support gross vehicle weights of 50,000 pounds. If bridges or culverts are involved in the construction of a road or driveway, written verification of compliance with the 50,000 gross vehicle weight standard shall be provided from an Oregon Registered Professional Engineer. Otherwise, written verification of compliance shall be provided by the applicant, see UFC 902.2.2.5. Prior to work within a wetland or waterway under the jurisdiction of the State of Oregon, developers of property are advised to consult with the Division of State Lands and the Oregon Department of Fish and Wildlife for permitting requirements.
- 5) Driveway grades shall not exceed an average of 12 percent, with a maximum of 15 percent on short distances of not more than 75 feet. Where there are existing conditions, particularly topography, which cause non-negotiable conditions, the Fire Chief may require additional fire protection. This additional fire protection may include an approved fire sprinkler system and/or other fire protection devices as specified in UFC 1001.9 in considering a variance of this interpretation and Fire Code, see UFC 902.
- 6) Driveways shall be marked with the residence's address unless the residence or building is in such a position as to be plainly visible from the roadway. The residence or building address must be legible from the street or road fronting the property. Letters or

numbers should be a minimum of three inches in height and constructed of reflective material.

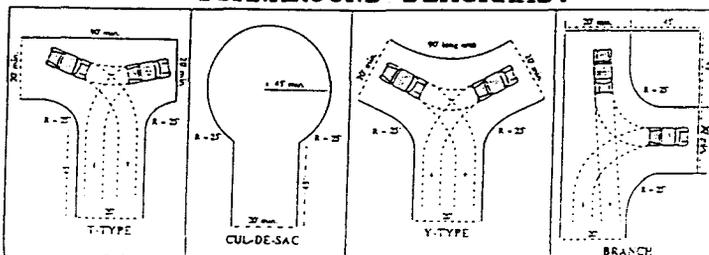
- 7) If the driveway has a road name it shall be identified with approved signs, see UFC 901.4.5.

C) TURNAROUNDS:

Turnarounds, cul-de-sacs, and other turnaround configurations shall be provided as required by the Uniform Fire Code 902.2.2.4, and meet the following conditions (refer to diagrams below):

- 1) Maintain unobstructed clearance for bumper overhang on rights-of-way.
- 2) Curb height shall not exceed 6 inches.
- 3) "No Parking" areas shall be designated by the Fire Chief and comply with the manual of Uniform Traffic Control Devices, 1988 Edition. If curbs are not present "No Parking" signs shall be used.
- 4) "No Parking, Fire Lane, and Tow Zone" sign locations will be determined by the Fire Chief and comply with the Manual of Uniform Traffic Control Devices, current Edition.
- 5) The structural section of the road shall be designed to support 50,000 pounds of vehicle weight, 12,500 pounds wheel load and be approved by an Oregon Registered Professional Engineer or written verification of compliance shall be provided by the applicant.
- 6) Drainage shall be required to prevent ponding.
- 7) The area of the turnarounds shall be permanently maintained, kept clear, and unobstructed at all times.
- 8) The creation of turnarounds shown in this document on any specific site, must be approved by the Fire Chief, an Oregon Registered Professional Engineer and the Columbia County Department of Land Development Services on apparatus access roads. On driveways the Fire Chief shall approve all proposed turnarounds with verification as described in "5" above.

TURNAROUND DIAGRAMS:



D) EMERGENCY ACCESS/SECURITY GATES:

When access to or within a structure or an area is unduly difficult because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the Fire Chief may require a key box to be installed in an accessible location. The key box shall be a type approved by the Fire Chief and shall contain keys to gain necessary access as required by the Fire Chief, see UFC 902.4.

E) PLANS AND SPECIFICATIONS:

Plans for fire apparatus access roads/driveways shall be received by the Rural Fire District in accordance with the Uniform Fire code 901.2.2.1. These plans shall contain all of the following information:

- 1) Right-of-way width
- 2) Width of all weather surfaces
- 3) Turnouts
- 4) Turnarounds
- 5) Grades
- 6) Curves
- 7) Bridges
- 8) Culverts
- 9) Structures in relation to roadways
- 10) Addressing
- 11) Intersections
- 12) Existing structures & driveways on roadway
- 13) Location of hydrants/hydrant reflectors if required
- 14) Approval stamp of an Oregon Registered Professional Engineer or written verification compliance from applicant for 50,000 pound vehicle weight and 12,500 pound per wheel load weight.

F) INSPECTION FOR COMPLIANCE

To insure that access roads/driveways are improved to the required standards, the following "Fire Services Improvement Requirements" form must be signed by a Fire District official before a building permit is issued. This will assure that road improvements are adequate for fire protection equipment to reach the site not only during the construction phase, but also throughout the existence of the structure(s), see UFC 901.3.

**FIRE SERVICE IMPROVEMENT REQUIREMENTS
FOR ROADS OVER 150 FEET IN LENGTH WITH
ONE AND TWO FAMILY DWELLINGS**

If this is a new access connecting to a county road, please contact the Columbia County Department of Land Development Services to obtain a road approach permit or a sign-off indicating that no permit is required.

The Uniform Fire Code 902.1 and the Zoning and Development Ordinance of Columbia County, Oregon, requires roadway/driveway improvements to a construction or mobile home installation site prior to the issuance of a building permit. One reason for this requirement is to assure that road improvements will allow fire protection equipment to reach the site, not only during the construction phase but throughout the existence of the structure. In order to assure that the access road meet the required standards, this form must be a local Fire Service official, and a copy of the signed form must be attached to your application for a dwelling, construction or mobile home placement permit.

Minimum standard roadway approval requires a twelve foot (12') wide, uniform all-weather travel lane, with a twenty foot (20') right-of-way maintained clear of debris and obstructions four feet (4') on each side of the travel lane. Driveways shall sustain a minimum wheel load of twelve-thousand five-hundred (12,500) pounds per wheel and a gross vehicle load of fifty-thousand (50,000) pounds. Turnouts twenty feet wide (20') and forty feet (40') long may be required on any access road exceeding four-hundred feet (400') in length. The unobstructed width must be maintained for not less than twenty feet (20'). Vertical clearance shall be maintained at no less than thirteen feet, six inches (13'6"). All access roads over one-hundred-fifty feet (150') in length shall be provided with a turnaround area at or near the end, improved to the above standards and of a design approved by the local Fire Service. Proper drainage must be provided. Bridges and culverts shall be capable of supporting a minimum of fifty-thousand (50,000) pounds. Average road grade shall not exceed twelve percent (12%) and no grade shall exceed fifteen percent (15%). Maximum curve centerline shall be not less than forty-five feet (45') radius. Any new access connecting to a Columbia County road requires a Columbia County Access Permit.

Please deliver this form to the local Fire Service and assist them in locating and inspecting the roadway/driveway providing access to the proposed development site. Maps to assist you in this effort may be obtained from the Columbia County Assessor's office or the Columbia County Department of Land Development Planning.

TYPE AND LOCATION OF PROPOSED DEVELOPMENT

Name: _____ Phone: _____ Tax Lot: _____

Address: _____

Description: _____

-----THIS SECTION TO BE COMPLETED BY FIRE SERVICE-----

_____ I have inspected the plot plan for the above location and proposed road improvements. The roadway may be built as proposed.

_____ I have inspected the above property and have determined that road improvements are adequate for temporary access by Fire Service equipment. A reinspection must take place prior to occupancy.

_____ I have inspected the above property and determined that road improvements to the proposed development site are suitable for access by Fire Service equipment.

_____ The following improvements must be completed prior tot permit issuance:

Name: _____ Date: _____

Fire Service: _____ Date: _____

III. ACCESS APPROACH

A) ACCESS

Access to County Roads, Public Roads, and Private Roads shall conform to the Columbia County Approach Road Ordinance (EXHIBIT 3) and these standards, or as modified by Urban Growth Boundary Management Agreements. An access approach permit must be obtained from the Columbia County Road Department prior to constructing any access approach to any county road, public road under the jurisdiction of the county, or any private road. An access approach permit is also required prior to obtaining a building permit from the Land Development Services office.

B) LOCATION AND NUMBER

It is the county's policy to provide access onto public and private roads in a manner and location that will protect the public safety. In general, the number of access points onto a roadway shall be held to the minimum necessary to provide adequate access to a particular parcel of property.

The location and number of driveways shall be as follows:

- 1) No access shall be allowed where there is less than the Minimum Stopping Sight Distance. Sight distance shall be measured from 3.5 feet above the pavement or traveled road surface at a location of 10 feet behind the edge of the traveled surface at the intersecting driveway, to a point that is 4.25 feet above the pavement in both directions. The sight distance shall then be measured along the center line of the public roadway between these two points. Minimum sight distance requirements shall be 10 times the 85th percentile speed of traffic as indicated in the following table. Applicants for road approaches shall develop and maintain adequate sight distance across their property to allow for the safe movement of traffic in every direction. No fence, tree, shrub, structure or natural earth mound may block this clear vision area.

Adequate sight distance is dependent on the speed of traffic (not necessarily the posted speed) at the location of the proposed driveway approach as follows:

85th PERCENT SPEED	MINIMUM SIGHT DISTANCE REQUIRED
25	250
30	300
35	350
40	400
45	450
50	500

The 85th percentile speed of traffic is that speed at which 85% of traffic travels at or below.

- 2) Driveway accesses shall intersect other roadways at or near a 90 degree angle. In no case shall it be less than 75 degrees. The angle of the access shall be constructed such that ingress and egress can be made completely within appropriate travel lanes.
- 3) Where there are several adjacent parcels with narrow frontage or where sight distance is inadequate, a frontage road or combined driveway may be required.
- 4) Within a UGB, a maximum of one double driveway or a looped driveway with a 90 degree intersection to the roadway shall be allowed per single family dwelling on a collector or arterial.
- 5) Within a UGB, no more than 40 percent of the roadway frontage of a lot shall be devoted to driveways (except for flag lots).
- 6) Where property is located at the intersection of an arterial or collector and a local street, the preferred access shall be on the local street.
- 7) On a corner lot, no portion of any driveway shall be allowed within the curb return or pavement flare of the intersection. On collector or arterial streets it shall be a minimum of 30 feet from the end of the curb

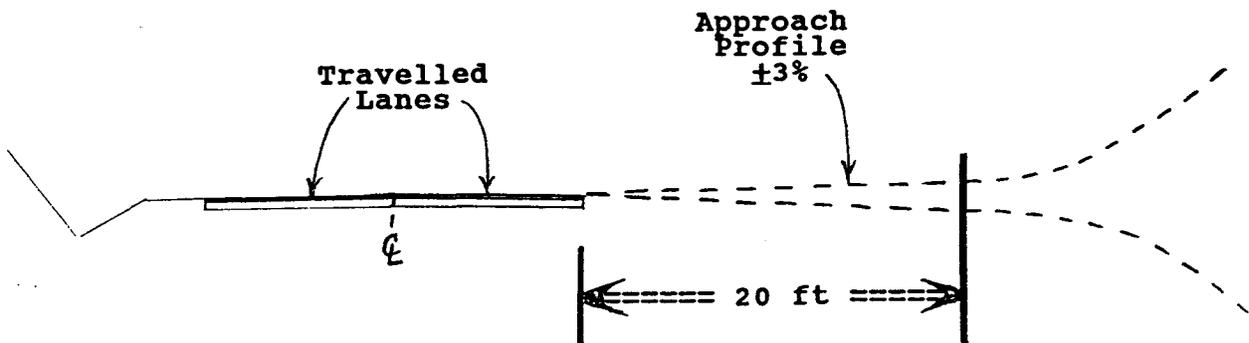
return or, if there is no curb, from the end of the pavement flare.

C) WIDTHS

Widths for commercial driveways shall be determined on a case by case basis. Residential driveways shall be 16 feet wide at a distance of 20 feet from the edge of the traveled surface of the intersecting road.

D) GRADE

The profile of the approach centerline shall not exceed $\pm 3\%$ from the edge of the traveled surface for a distance of 20 feet, as follows:



IV. PRIVATE ROADS

Private roads may serve up to six lots upon approval by the Land Development Services office of the county, may be located within an Urban Growth Boundaries upon concurrence with the city, and must access directly to a public road. Private roads shall comply with Fire Department Fire Apparatus Access Road standards and the following:

A) MINIMUM REQUIREMENTS

- 1) Private roads shall not be approved if the road is presently needed, or is likely to be needed, for public

road purposes in the normal development of the area, or if the private road is intended to facilitate more intensive development of the area, or if the private road is intended to serve commercial or industrial uses. Private roads shall not be approved for commercial or industrial land divisions.

- 2) The minimum easement width for a private road shall be 40 feet, except where the natural slope or topography of the land requires a greater width. The minimum right-of-way width shall accommodate required cut and fill slopes, ditches, turnouts and cul-de-sacs. Additional right-of-way will be required to be dedicated from developers of property if the easement is not currently 40 feet wide or if additional right-of-way is required for the necessary improvements within the limits of the property being developed.
- 3) A lot or parcel abutting a railroad or limited access road right-of-way may require special consideration with respect to its access requirements.
- 4) Guardrails are required on all bridges and for a distance of 40 feet along the approaches to all bridges. A guardrail is also required along any roadway where the fill slope or natural ground slope below the road is steeper than 1:1, over 10 feet high, and is within 10 feet horizontally of the edge of the traveled road surface. The guardrail materials must conform to the Oregon State Highway Standard Drawings and Specifications.
- 5) The County may require that the private road being created for a partition or other development be dedicated for public road and utility purposes and improved to the applicable standards, if it is determined by the Public Works Director or the Columbia County Land Development Services Department that the access and transportation needs of the public would be better served by such a change.

The determination made by the County will include the following:

- a) Proximity of other roads being used for the same purpose,
- b) Topography of the parcel and contiguous parcels,
- c) Potential development and potential buildout densities as determined by the existing zoning,
- d) Safety factors such as visibility, frequency or road access points.

- 6) All private dead-end roads shall have a cul-de-sac or other suitable turnaround.
- 7) A private road shall directly connect only to a public road. (It shall not connect to another private road.)
- 8) The County shall require that a maintenance agreement be recorded in the office of the County Clerk of Columbia County with the map or plat creating the private road, and the agreement shall include the following terms:
 - a) That the agreement for maintenance shall be enforceable by a majority of homeowners served by the road.
 - b) That the owners of land served by the road, their successors, or assigns, shall maintain the road, either equally or in accordance with a specific formula that is contained in the maintenance agreement.
 - c) Amendments shall be allowed by written and recorded agreement and consent of 75% of property owners adjacent to the road.
- 9) The County shall require that an easement over the private road for access, including the right of maintenance, be conveyed to the properties served by the road.

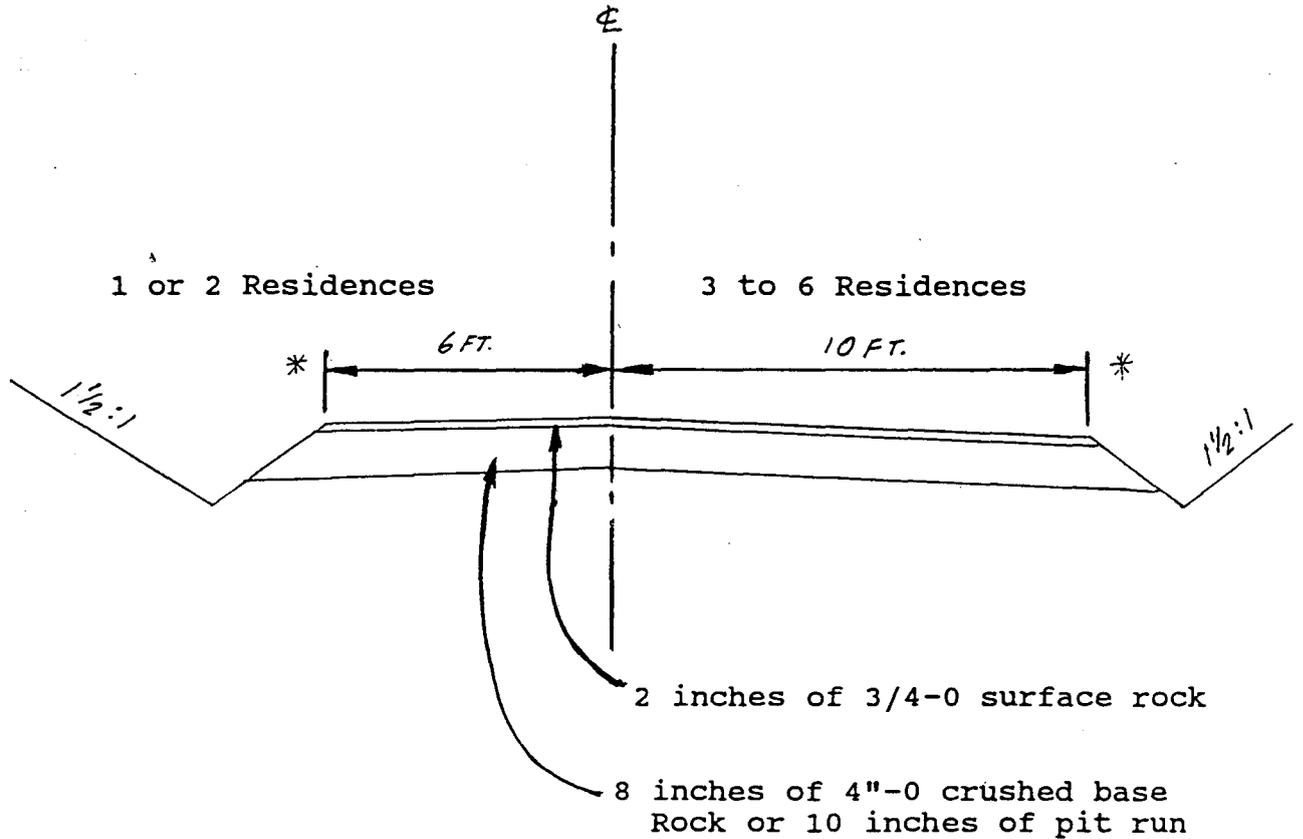
B) MINIMUM CONSTRUCTION STANDARDS

- 1) Twelve foot wide improved travel surface for one or two lots. Twenty foot wide improved travel surface for 3 to 6 lots. Four foot wide clear zone outside of the travelled surface.
- 2) The travel surface of the private road shall be constructed to ensure access for the parcels served during all climatic conditions. Minimum requirements:
 - a) Ten inches of pit run or eight inches of 4"-0 base rock or equivalent. The grade of rock shall be approved by the County Road Department prior to construction. Pit run shall be a hard, durable angular rock of 8 inch maximum dimension with less than 15% by weight consisting of soil, sandstone or other undesirable material.
 - b) Two inches of 3/4"-0 surface rock.

- 3) Turnouts shall be required on 12 foot wide roadways at 400 foot maximum intervals, or at distances which ensure continuous visual contact between turnouts. Turnouts shall be constructed to the following dimensional standards: 40 feet in length and 8 feet in width, with 12 foot tapers on each end back from its point of connection with the private road.
- 4) The minimum cut and fill slope ratio shall be $1 \frac{1}{2}$ units horizontal to 1 unit vertical ($1\frac{1}{2} : 1$). The developer shall be required to provide all erosion control measures necessary to maintain the standard cross section and to eliminate increases in any stream turbidity.
- 5) The finished grade within 20 feet of the traveled portion of the public roadway shall not exceed ± 3 percent. Elsewhere the finished grade shall not exceed 17%. Any section of road grade that exceeds an average of 12% (excepting up to 75 foot sections of up to 15%) shall be paved. Any section of road with a grade in excess of 15% shall be paved. Minimum compacted depth of pavement on a private road shall be 2 inches.
- 6) A 45 foot radius cul-de-sac, or other suitable turnaround, at the terminus of the private road or within 200 feet of its terminus.
- 7) All culverts, bridges and other waterway crossings shall be constructed and maintained to carry American Association of State Highway and Transportation Officials (AASHTO) HS-20 loading. All culverts shall have a minimum diameter of 12 inches. Bridges and other large waterway crossings shall be certified by a registered professional engineer. Prior to work within a wetland or waterway under the jurisdiction of the State of Oregon, developers of property are advised to consult with the Division of State Land and the Oregon Department of Fish and Wildlife for permitting requirements.
- 8) All private road points of access to public roads shall include a landing area to extend 20 feet minimum beyond the shoulder of the public road on which the profile grade shall not exceed 3 percent. A greater landing area may be required to allow for future road improvements.
- 9) If the intersecting public road is paved (or asphalt "oil" matte), the private road shall be paved at least 20 feet back from the edge of the existing asphalt roadway.

- 10) Centerline curve radius shall be at least 45 feet.
- 11) Overhead clearance shall be maintained at least 13 feet 6 inches.
- 12) Variances to this standard shall require a written letter of approval from the appropriate fire department, Rural Fire District, or Oregon State Board of Forestry.
- 13) Approved signs shall be provided and maintained by the owners of property being accessed by the private road to identify the road and to prohibit parking or obstruction of the roadway as required by the Columbia County Fire Services Fire Apparatus Access Road and Driving Standard.
- 14) An access permit is required from the Road Department for a driveway that accesses a private road.

C) PRIVATE ROAD STANDARD DRAWING



Design Speed = 15 MPH

Typical Crown = 2%

Maximum Superelevation = 4%

Minimum Right-of-Way = 40 ft.

* Four foot clear zone outside of the road surface

V. EXISTING PUBLIC ROADS

The maintenance of public roads within public rights-of-way will remain the responsibility of the adjacent property owners until such time as the road has been constructed to county road standards and accepted as a "County Road" by the Board of Commissioners. All work within a public road or county road right-of-way must be authorized by a permit from the County Road Department. If the existing right-of-way of the road is not what is required of Section VII of these standards, the owner of the property to be developed shall dedicate one half of the required right-of-way width prior to obtaining a permit from the Columbia County Land Development Services Department. The required right-of-way width to be dedicated will be based on the classification of the road, or the requirements for construction of the road to the standards required of Section VI to include bike lanes where designated, whichever is greater. Owners of corner lots or parcels may be required to dedicate right-of-way along both road frontages.

A) DEVELOPMENT OF A SINGLE LOT OR PARCEL

It is the intent of these specifications to require developers of single properties adjacent to existing public roads to construct the gravel base improvements required for creation of new public roads in accordance with Section VII of these standards subject to a maximum cost for improvement to the road of \$3,000. In lieu of requiring paving, a waiver of remonstrance for creation of a Local Improvement District for additional road improvements will be required from each property owner.

1) DEVELOPMENT OF EXISTING PLATTED PUBLIC RIGHTS-OF-WAY

Public roads platted after adoption of this ordinance must be constructed to the requirements for creation of new public roads per Section VI of these standards prior to acceptance by the County.

Many public roads are currently being used and are not currently constructed to the new road construction standards as described in Section VI of this document. As a single development is proposed on an existing dead end public potential road or county road, the number of undeveloped lots and parcels along the road shall be counted and the gravel base improvements equally divided among the remaining undeveloped lots and parcels. Owner of undeveloped properties shall be required to pay or make improvements to the road only after making application to the Land Development Services Office of the County for development of the property. Therefore, as the undeveloped lots and parcels are built upon, the road will be

continually improved until the gravel base is completely constructed upon the final development of the last lot or parcel at which time it is intended that the gravel base improvements will be completed.

Road improvements shall be constructed to the standards listed in Section VI to the extent possible within the limits of the existing right-of-way. Additional right-of-way shall be dedicated to the public for public or county road purposes by the applicant within the boundaries of their property as indicated in drawings I and II, pages 50 and 51, if the existing right-of-way is not of standard width or if the improvements cannot be constructed to the standards of Section VI within the existing right-of-way limits for this section of roadway.

Sequence of improvements shall be made to the road from the point of the intersecting public road to the rear.

Applicants for construction of a new residence or single development on an existing through public road or county road not constructed to the standards of Section VII shall widen the gravel shoulder for the full length of their road frontage to a surface width of 13 feet from constructed centerline for a local road, a width of 16 feet from constructed centerline for a collector road and 17 feet from centerline of an arterial road. The applicant shall dedicate enough right-of-way to allow maintenance of the constructed shoulder, ditch, and fill or cut slope, or to a width as indicated in drawings I and II on pages 50 and 51.

2) OPENING OF UNDEVELOPED PUBLIC RIGHTS-OF-WAY

New construction must pay particular attention to alignment and grade such that future improvements can be economically made to the roadway to eventually comply with the new road construction standards (Section VI) of this document. The subgrade shall be constructed to the full extent possible within the right-of-way limits.

To ensure that the road construction on unopened public roads complies as close as possible to the construction standards for new platted public roads, plans are required to be approved by the Road Department before a permit will be issued. The plans must include the same information as required in Section VI of this document, however the plans are not required to be stamped by a registered professional engineer. The subgrade must be constructed to the full width of the right-of-way or to new road construction standards such that future developers of property along the roadway will not have to construct the subgrade.

If additional right-of-way is needed for construction to the standards of Section VI within the limits of the property owned by the applicant, right-of-way shall be dedicated to the public prior to issuing a permit for construction.

3) CONSTRUCTION STANDARDS FOR EXISTING PUBLIC ROADS

Fire Standards: Must comply with the Columbia County Fire Services fire apparatus access roads and driveways standards.

Grade: Generally as existing. Minor improvements may be required by the Public Works Director as a condition of the construction permit. (Partitions and subdivisions will not be allowed where existing grades are greater than 15%.)

Alignment: Generally as existing. Minor improvements may be required by the Public Works Director as a condition of the construction permit.

Road Width: Road rock base requirements for public roads shall be 30 feet for 7 or more properties, 20 feet for 2 to 6 properties, and 12 feet with turnouts for 1 or 2 properties. Approved turn-arounds are also required at the end of all dead-end roads.

Determination of Right-Of-Way: It is the applicant's sole responsibility to determine the location of all existing rights-of-way, and to construct the roadway within such rights-of-way. Applicant shall hold the county harmless from any liability resulting from work outside the limits of the subject right-of-way.

Marketable Timber and Vegetation: Adjacent property owners are the rightful owners of timber and vegetation within the right-of-way. Applicant shall be responsible to arrange with adjacent property owners for the removal and disposal of vegetation and timber that must be removed for road construction. Work shall not begin on the road until the adjacent property owners have been notified of the intended work and given 10 days to respond to the applicant for removal of the vegetation. Applicant shall hold the County harmless from any liability resulting from removal of any trees or vegetation.

4) MODIFIED STANDARDS FOR EXISTING PUBLIC ROADS

If the existing public road or county road cannot be constructed to new road construction standards (Section VI) or the widths as described above, the developer of a lot or parcel may modify the road standards as follows if

approved by the Public Works Director:

- 1) Steepen cut and fill slopes to 1 1/4:1 for cut slopes, 1 1/3:1 for fill slopes.
- 2) Pipe storm water with 12" minimum diameter smooth wall pipe and catch basins.
- 3) Reduce radius of curvature down to 50 feet minimum.
- 4) Reduce shoulder width, not road surface width, by up to 3 feet on each side.
- 5) Increase grade to 15% and comply with Columbia County Fire Services fire apparatus access roads and driveways standard.
- 6) Reduce road surface width.

B) PARTITIONS

All roads platted with partitions and subdivisions which are filed after this ordinance is adopted shall be constructed to new road construction standards as required in Section IV and Section VI of this document.

1) DEVELOPMENT OF EXISTING PLATTED PUBLIC RIGHTS-OF-WAY

Partitions will not be allowed to access any public road where it is not feasible (as determined by the Public Works Director) to construct that public road to the new road improvement standards required in Section VI of this document, without further order of the Board of County Commissioners or Planning Commission, after considering the report and recommendation from the Public Works Director. If the road improvements are determined to be feasible within the existing right-of-way, the applicant for a partition shall improve the existing road that is adjacent to the subject property, whether or not a new road is created within the partition, to the applicable standard as if new residences were immediately constructed on the new parcels. (i.e. If a partition creates 3 parcels of property and there are 7 other undeveloped potential parcels along the road, the applicant for the partition will be required to construct 3/10 of the required road improvements prior to final approval of the partition.)

Additional right-of-way will be required to be dedicated as required of developers of single parcels as described above.

Additional road improvements will be required when application is made for an access permit to build on the property.

See also Section I(B) and I(C) of these standards.

2) OPENING OF UNDEVELOPED PUBLIC RIGHTS-OF-WAY

If the developer of a partition requests to construct a road on an unopened (not currently used by a residence) public road, that entire road section shall be developed to new road improvement standards required in Section VI of this document subject to the following:

a) If the partition creates a public road, the existing unopened public road shall also be paved.

b) If the partition does not create a public road, the existing public road shall not be required to be paved.

C) SUBDIVISIONS

1) CREATION OF NEW PUBLIC RIGHTS-OF-WAY

All new public roads or county roads created in conjunction with a subdivision after adoption of this ordinance, shall be improved in accordance with the Creation of New Public Road standards (Section VI). The entire limits of the new public right-of-way shall be improved prior to final approval of the subdivision.

2) EXISTING PUBLIC ROAD OR COUNTY ROAD RIGHTS-OF-WAY

The sections of the existing public road or county road rights-of-way adjacent to or within the subdivision (or those sections that are not currently used for residential access but necessary for the subdivision), shall be improved in compliance with the Creation of New Public Road Standards, Section VI, of this document.

Improvements to the existing and currently used public or county roads in the area of the subdivision will be reviewed on a case by case basis to determine the road improvements necessary beyond the limits of the subdivision boundaries (off site improvements), and to be certain that the access roads can be constructed to the new road construction standards of Section VI. Such improvements shall be proportionate to the maximum buildout density of the area. If such improvements cannot feasibly be constructed, other means of access to the property will be required.

After a subdivision has been given final approval, each individual lot will be treated as an existing lot and roads shall be improved in accordance with Section V (A) above, which will require a road access permit from the Road Department prior to construction of a home or development of the property.