

## Chapter 16.48

### SUBDIVISION IMPROVEMENTS

#### *Section*

<b>16.48.010</b>	<b>Applicability</b>
<b>16.48.020</b>	<b>General</b>
<b>16.48.030</b>	<b>Improvements Required</b>
<b>16.48.040</b>	<b>Improvement Plans and Permits Required</b>
<b>16.48.050</b>	<b>Preparation and Form of Improvement Plans</b>
<b>16.48.060</b>	<b>Commencement of Improvement Work</b>
<b>16.48.070</b>	<b>Construction and Installation Standards</b>
<b>16.48.080</b>	<b>Temporary Improvements</b>
<b>16.48.090</b>	<b>Inspection of Improvement Work</b>
<b>16.48.100</b>	<b>Coordination of Improvement Work</b>
<b>16.48.110</b>	<b>Improvements Waived</b>
<b>16.48.120</b>	<b>Specific Improvement Requirements</b>
<b>16.48.121</b>	<b>Public Sewage Disposal</b>
<b>16.48.122</b>	<b>Individual or On-site Sewage Disposal</b>
<b>16.48.123</b>	<b>Public Water Supply</b>
<b>16.48.124</b>	<b>Individual or On-site Water Availability</b>
<b>16.48.125</b>	<b>Solid Waste Disposal</b>
<b>16.48.126</b>	<b>Road Improvements</b>
<b>16.48.127</b>	<b>Fire Protection Improvements</b>
<b>16.48.130</b>	<b>Oversizing Improvements - Reimbursement</b>
<b>16.48.140</b>	<b>Improvement Agreement</b>
<b>16.48.150</b>	<b>Form, Filing and Term of Improvement Agreement</b>
<b>16.48.180</b>	<b>Liability for Alterations or Changes</b>
<b>16.48.190</b>	<b>Release of Improvement Security - Completion of Work</b>
<b>16.48.200</b>	<b>Withholding of Building Permits</b>

#### **Sec. 16.48.010      Applicability**

All divisions of land, and the lots and parcels resulting therefrom, shall be subject to the provisions of this Chapter.

#### **Sec. 16.48.020      General**

The size, design, character, grade, location and orientation, and configuration of lots within a proposed subdivision and improvements required in connection therewith, shall be consistent with the density and uses authorized for the are by the General Plan or the applicable Specific Plan, whichever is more restrictive.

The density, timing or sequence of development may be restricted by considerations of safety, traffic access or circulation, the slope of the natural terrain, the physical suitability of the site (including soil conditions), the nature or extent of existing development, the availability of public services, or other provisions of the regulations.

**Sec. 16.48.030      Improvements Required**

The subdivider shall construct or install all improvements in streets, pedestrian ways, biking paths, channels, easements and other rights-of-way as are necessary for the general use of residents of the subdivision and to meet local traffic and drainage needs in accordance with the provisions of this Chapter.

**Sec. 16.48.040      Improvement Plans and Permits Required**

Improvement plans shall be completed by the subdivider prior to the acceptance of the final map or parcel map for filing by the Public Works Director.

Improvements plans shall be prepared by a registered civil engineer of the State of California, or under his direction, at the subdivider's cost. Plans shall conform to improvement standards adopted by the Board of Supervisors pursuant to this Chapter and shall be submitted to the Public Works Director for review and approval.

The final map shall not be deemed to be submitted for approval until the preparation of said plans is completed and said plans have been accepted by the Public Works Director.

Standard engineering fees to be charged by the County for review of such plans and inspection of construction work by the Public Works Director shall be determined by resolution of the Board.

**Sec. 16.48.050      Preparation and Form of Improvement Plans**

Improvement plans shall show full details of all improvements required to be installed by the provision of these regulations, and of all other improvements proposed to be installed by the subdivider within any street, pedestrian way, easement or other public area or right-of-way. Full details shall include cross sections, profiles, estimated costs and specifications.

The form, layout, scale and other particulars of the plans, and number of copies to be provided, shall be in accordance with the requirements of the Public Works Director.

**Sec. 16.48.060      Commencement of Improvement Work**

Prior to the commencement of construction or installation of any improvements within any street, pedestrian way, easement or other public area or right-of-way, improvement plans shall have been approved by the Public Works Director and other affected

departments, or divisions. All other necessary permits to facilitate improvement work shall also be obtained prior to commencement.

**Sec. 16.48.070 Construction and Installation Standards.**

Improvements shall be constructed and installed in accordance with the approved plans and in accordance with the applicable standards, specifications and permit procedures established by these regulations, the County Code, State or Federal laws and resolutions of the Board of Supervisors.

Improvements shall be constructed and installed to permanent line and grade satisfactory to the Public Works Director.

**Sec. 16.48.080 Temporary Improvements**

In addition to permanent improvements, temporary improvements may be required to be made prior to or concurrent with permanent improvements.

**Sec. 16.48.090 Inspection of Improvement Work**

All improvements shall be constructed under the inspection of the Public Works Director and the subdivider shall cause all such improvement work to be inspected at such times as are established and required by him. Subdivider shall pay County a fee to defray County's costs in making such inspection, the rate of which shall be determined by resolution of the Board.

**Sec. 16.48.100 Conditions of Improvement Work**

All work and improvements contemplated by and performed under the provisions of these regulations shall be accomplished so as to minimize interference with and coordinate with other construction activities or developments of or on behalf of the County and nearby private development.

**Sec. 16.48.110 Improvements Waived**

If it is determined by the Public Works Director that the subdivision has been submitted only for the purpose of clarifying records by consolidating existing lots and metes and bounds parcels, or for the purpose of absorbing vacated streets or alleys by reversion to acreage, or both, the Board of Supervisors may, upon recommendation of the Public Works Director, waive all or a portion of the improvements which otherwise would be required.

**Sec. 16.48.120 Specific Improvement Requirements**

The improvements required by this Chapter shall be in accordance with Subsection 16.48.121.

**Sec. 16.48.121      Public Sewage Disposal**

- A. When any part of a subdivision is located within 1,000 feet of an available public sanitary sewer to which the subdivision may legally be connected, said subdivision shall be required to be sewerred and be connected thereto.
- B. Construction of the system, or assurance of completion satisfactory to the County Board of Supervisors, and any necessary district formation, or formation of other legal entities must be completed prior to the request for final subdivision approval.
- C. In the case of subdivisions included in an existing and operating district, the subdivider shall design and install the sewage system and appurtenances in conformance with the standards established by the district. The subdivider shall furnish a letter from the district certifying that the improvement design is to their standards prior to submission of the final map.
- D. In the case of a subdivision not in an existing and operating district, the subdivider shall have construction plans prepared by an engineer licensed in the State of California submitted for review to the County Health Officer, Sanitary Engineering Branch and the North Coast Water Quality Control Board (NCRWQCB) at least thirty (30) days prior to consideration of the final map by the Board of Supervisors.
- E. Treatment and disposal facilities shall be designated in conformance with standards approved by the County Health Officer, Sanitary Engineering Branch and NCRWQCB.
- F. A competent inspector, approved by the County Board of Supervisors, shall be hired to inspect the installations for compliance with approved plans. The cost, hourly rate, mileage and expense of the inspector, shall be paid by the subdivider.
- G. The subdivider shall be responsible for compliance with all local, County and State standards and for the stability of all improvements and shall replace any portions which have become displaced due to carelessness or negligence on his part or to damages resulting from natural causes until 50% buildout or two (2) years from final approval, whichever comes first.
- H. When the required improvements have been installed, the subdivider shall request the inspector, in writing, for a final inspection of said improvements. The subdivider shall be advised in writing of the status of the improvements, including deficiencies. The subdivider shall correct any deficiencies so reported and shall again request a final inspection. The final inspection shall

satisfy the inspector that the improvements fully comply with local, County and State specifications.

- I. Sewer systems and appurtenances located upstream of a domestic water reservoir must be located at an elevation of at least ten (10) feet above and over 200 feet horizontal distance from the high water line. In addition, any sewage treatment facilities constructed or located in the watershed must be located at least 500 feet (horizontally) from the high water line of the reservoir.

**Sec. 16.48.122 Individual or On-site Sewage Disposal** (Ref: Ordinance No. 1168)

- A. If a subdivision of less than five (5) parcels is proposed for development on the basis of on-site sewage disposal systems, it is the responsibility of the subdivider to provide proof of the protection of water quality and the prevention of health hazards and nuisance conditions arising from the on-site discharge of wastes.

In general, the following site criteria for each parcel must be met:

- 1. Criteria for determining lot size shall include the following: (Ord. 1186)

Sewage Disposal	Water Supply	Required Minimum Usable Area (must be contiguous except as noted below) <sup>2</sup>	Minimum Lot Size <sup>1</sup>
On-site	Community	10,000 sq. ft.	10,000 sq. ft.
Community	Individual	No minimum specified	10,000 sq. ft.
On-site	Individual	One-half acre <sup>2</sup>	One acre <sup>3</sup>
Community	Community	No minimum specified	No minimum specified

<sup>1</sup> Minimum lot size shown refers to health standards only. Applicants should also consult the County Zoning Ordinance.

<sup>2</sup> Minimum usable area in this case can be located in areas no less than 10,000 sq. ft. each as long as such areas are not separated by topographical barriers such as streams,

<sup>3</sup> The one acre minimum lot size may be reduced to not less than one-half (1/2) acre if recommended by the County Health Officer, but only if documented findings can be made that both the site and the general area contain deep groundwater and that concentration of nitrates will not result from reduced lot sizes in the area. The applicant will be responsible for providing background information which shall include a study and recommendation by a civil engineer, registered geologist or registered hydrologist with documented education and experience in conducting such studies.

2. The following shall not be considered as usable acreage:
- a. Land that is swampy or has groundwater within 8 feet.<sup>4</sup>
  - b. Gravel bars, rock piles, or pervious material.
  - c. Land which has a slope greater than 30%
  - d. Land necessary or used for roads, driveways, land easements

TABLE 1

MINIMUM SETBACK REQUIREMENTS

Well <sup>1</sup>	100 ft.
Perennial Stream <sup>2</sup>	100 ft.
Ephemeral Stream <sup>3</sup>	50 ft.
Lake or Reservoir <sup>4</sup>	100 ft.
Cut Banks, Natural Bluffs, Sharp Changes in Slope and Fills	3 x h = setback in ft. (min. 25 ft., Max. 50 ft.)
Unstable Land Forms	50 ft.
Spring <sup>5</sup>	200 ft. (500 ft. in granite soils)
Property Lines	10 ft.

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3. Determination of a site's suitability for percolation of effluent shall be determined by the following methods:
- a. Percolation Testing: Percolation testing shall be in accordance with methods specified in Figure 1 and conducted or supervised by a registered: engineer, soil scientist, geologist, sanitarian, or licensed land surveyor.

Percolation testing of soils within Zone 3 and Zone 4 shall be conducted during wet weather conditions.<sup>6</sup>

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<sup>4</sup> Use criteria in site evaluation.

<sup>1</sup> Includes off-site wells.

<sup>2</sup> As measured from the 10-year flood line. Setbacks must be increased to 500 feet of the high-water line for streams flowing to a domestic water reservoir within the closed zone.

<sup>3</sup> As measured from the edge of the water course. Setbacks must be increased to 500 feet of the high-water line for streams flowing to a domestic water reservoir within the closed zone.

<sup>4</sup> As measured from the high-water line. Leaching systems must be placed a minimum horizontal distance of 200 feet from the high-water line of domestic water reservoir and outside the "closed zone" at the water supply intake. The "closed zone" is defined as a minimum of 500 feet from the intake works.

<sup>5</sup> As measured uphill from spring.

Percolation testing of soils falling within Zone 1 and Zone 2 may be conducted in non-wet weather conditions provided presoaking of the test hole is accomplished with (a) continuous twenty-four (24) hour presoaking, or (b) a minimum of eight (8) complete refillings beginning during the day prior to that of the conduction of the test.

A minimum of 2 percolation tests per proposed parcel shall be performed with a minimum of 2 acceptable results. The test results shall not be less than 60 minutes per inch. The depths of each test hole are indicated in Table 2.

TABLE 2

<u>Average Slope of Lot</u>	<u>Depth of Percolation Test Hole</u>
0 - 10%	3 ft.
10 - 20 %	4 ft.
20 - 30%	5 ft.

- b. Soil Analysis: Soil from the limiting soil layer observed within an excavated soil profile shall be obtained and analyzed for texture and bulk density according to methods prescribed by the NCRWQCB. The results shall be plotted on the soil textural triangle of Figure 2, as per the indicated instructions.
  - Soils within Zone 1 shall be considered to have minimal filtration capabilities, requiring increased depths to groundwater as per Table 3.
  - Soils within Zone 2 shall be considered suitable for effluent disposal.
  - Soils within Zone 3 and Zone 4 shall require percolation testing per 1 above to verify suitability for effluent disposal.

<sup>6</sup> Wet weather testing periods shall be (a) between January and April 30; and (b) following ten (10) inches of rain in a thirty (30) day period or after half of the seasonal normal precipitation has fallen. Extension of wet weather testing beyond the limits of the above criteria may be made by agreement of both the NCRWQCB and the County Health Officer.

TABLE 3

Soil Texture <sup>1</sup> Percent of Silt and Clay	Depth to Groundwater
5% or less	40 ft.
6 to 10%	20 ft.
11 to 15%	10 ft.
Greater than 15% <sup>2</sup>	

4. Soil characteristics shall be evaluated by soil profile observations. One backhoe excavation in the primary disposal field and one in the replacement area shall be required for this purpose. A third profile shall be required if the initial two profiles show dissimilar conditions.

Augured test holes shall be an acceptable alternative, upon determination of the County Health Officer or NCRWQCB: (a) where use of a backhoe is impracticable because of access, (b) when necessary only to verify conditions expected on the basis of prior soils investigations, or (c) when done in connection with geological investigations. Where this method is employed, three test holes in the primary disposal field and three in the replacement area shall be required.

The following factors shall be observed by the County Health Officer and reported from ground surface to a depth of at least five (5) feet below the proposed leachfield system (minimum overall depth is eight (8) feet.

- a. Thickness and coloring of soil layers and apparent United States Department of Agriculture (USDA) classification.
- b. Depth to and type of bedrock, hardpan or impermeable soil layer.
- c. Depth to observed ground water.

<sup>1</sup> Must exist for a minimum of 3 continuous feet between the bottom of the leaching trench depth and groundwater.

<sup>2</sup> Or a percolation rate slower than 5 minutes per inch.

- d. Depth to soil mottling.
  - e. Other prominent soil features such as structure, stoniness, roots and pores, dampness, etc.
5. The anticipated highest level of groundwater shall be estimated:
- a. At the highest extent of soil mottling observed in the examination of soil profiles;
  - b. By direct observation of groundwater levels during wet weather conditions.<sup>1</sup>

Where a conflict in the above materials of examination exists, the direct observation shall govern.

In those areas which, because of parent materials, soils lack the necessary iron compounds to exhibit mottling, direct observation during wet weather conditions shall be required. Guidance in defining such area shall be provided by the NCRWQCB.

6. A greater number of the described tests above may be required by the County Health Officer at his discretion.
7. The soil investigation report shall be submitted to the County Health Officer and shall include but not be limited to the following:
- a. Dates of test.
  - b. Weather conditions at the time of tests.
  - c. Location of percolation test holes on a copy of the tentative map.
  - d. Depth of test holes.
  - e. Percolation test results by test hole numbers (must be submitted on Figure 1 form).
  - f. Signature on percolation test results.

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<sup>1</sup> Wet weather testing periods shall be (a) between January 1 and April 30; and (b) following ten (1) inches of rain in a thirty (30) day period or after half of the seasonal normal precipitation has fallen. Extension of wet weather testing beyond the limits of the above criteria may be made by agreement by both the NCRWQCB and the County Health Officer.

8. The required soil investigation report shall be submitted to the County Health Officer at least fifteen (15) days prior to an on-site evaluation by the Health Department. All soils work must be completed and submitted for approval to the County Health Officer at least thirty (30) days prior to final map approval.

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## PERCOLATION TEST PROCEDURES

## FIGURE 1

### NOTIFY THE HEALTH DEPARTMENT 48 HOURS IN ADVANCE OF CONDUCTING PERCOLATION TESTS

The object in conducting percolation tests of soil in which a drain field or seepage pit is to be installed, is to determine the length of time required for the soil to absorb one inch of water when the ground has been saturated. The information obtained from these tests, together with a knowledge of the approximate amount and type of sewage to be discharged, makes it possible to determine the size of the drain field.

Holes 4 to 6 inches in diameter have been found to be the most convenient. However, this diameter is not critical, and, particularly in very loose soils, it may be easier to dig larger holes. Sides of the holes should be vertical and the depth should be approximately that of the proposed drain field. The holes (2 or more) should be approximately 30 feet apart and in the area where the drain field will be installed.

1. The sides should be roughed up to eliminate packing caused by the shovel or post hole digger, which would reduce the percolation rate. Two inches of fine gravel should be placed in the hole to prevent bottom scoring.
2. Fill the hole with clear water being careful to avoid washing down the sides of the hole. By refilling if necessary, keep at least 24 inches of water in the hole for at least 24 hours or a minimum of 8 complete refillings beginning during the day prior to the test.
3. After the above saturation, start with no more than 12 inches of water above the gravel (remove water, if necessary) and begin the measurements.
4. Select a reference point from which to measure (a board laid across the mouth of the hole is satisfactory) and measure the distance from the reference point to the level of the water. Enter the time and distance measured on the chart below.
5. Repeat the measurement at the end of 30 minutes. Continue making measurements at 30-minute intervals for the complete 4 hours.

6. If the water level drops too low for further readings, refill to the 12-inch level at the end of a 30-minute period, measure, and proceed as before. Note time(s) of refill(s) on chart below.
7. If the hole consistently drains in less than 30 minutes, make readings at 10-minute intervals for the complete 4 hours.



**Sec. 16.8.123      Public Water Supply**

- A. Construction of the system, or assurance of completion satisfactory to the County Board of Supervisors, and any necessary district formation, or formation of other entities, must be completed prior to the request for final map subdivision approval.
  
- B. In the case of subdivisions included in an existing and operating district of 200 or more connections, the subdivider shall design and install the water system and appurtenances in conformance with the standards established by the district and Title 22 of the California Administrative Code. The water system must be in compliance with the California Safe Drinking Water Act and Title 22 of the California Administrative Code. The subdivider shall furnish a letter from the district certifying that the improvement design is to its standards prior to submission of the final map.
  
- C. In the case of subdivisions included in an existing and operating water system of less than 200 connections the subdivider shall design and install the water system appurtenances in conformance with Title 22 of the California Administrative Code prior to submission of the final map.
  
- D. In the case of subdivisions not in an existing and operating district, the subdivider shall have construction plans prepared by an engineer licensed in the State of California and submitted for review by: (a) the Sanitary Engineering Branch for systems of 200 connections and more; or (b) the County Health Department, Sanitary Engineering Branch and Department of Corporations for systems under 200 connections at least thirty (30) days prior to submission of the final map for approval.

The construction plans shall include at a minimum the following:

- 1. Bacteriological and chemical water samples of source, as defined in Title 22 of the California Administrative Code.
  
  - 2. General plan of the source (including well logs, pump tests and water rights, if needed), treatment distribution systems and storage works showing the location, function, and capacity of each component.
  
  - 3. The parcels on which the source, treatment and storage works are proposed must be specifically delineated.
- E. Minimum fire flows as specified in Section 16.48.127 must be designed into all existing and proposed water systems.

- F. The subdivider shall provide a letter from the water provider agreeing to unconditionally with without exception provide domestic water to each lot in the proposed subdivision.
- G. A permit to construct a water system must be obtained as provided for in the California Health and Safety Code, Section 4011.
- H. All water systems shall be designed, installed and maintained in compliance with the California Safe Drinking water Act, Waterworks Standards and the Domestic Water Quality and Monitoring Requirements.
- I. The County Board of Supervisors may require a competent inspector be hired to inspect the installation for compliance with approval plans. If required, the cost, hourly rate, mileage and expenses of the inspector shall be paid by the subdivider.
- J. The subdivider shall be responsible for compliance with the foregoing standards and for the stability of all improvements and shall replace any portions which have become displaced due to carelessness or negligence on his part or to damages resulting from natural causes until 50% buildout or two (2) years from final approval, whichever comes first.

**Sec. 16.48.124 Individual or On-site Water Availability**

- A. In the case of subdivisions of less than five (5) parcels, water availability on each parcel must be proven by one or a combination of the following methods:
  - 1. Adequate water supply on each parcel capable of producing three (3) gallons per minute. The water must be legally obtained as defined in the Water Rights Law.
  - 2. A well (as defined in the California Water Well Standards), located within 1500 feet of each proposed parcel of the property to be divided and capable of producing three (3) gallons per minute after a four (4) hour pump test.

All water availability must be proven during a time period of July 15 through September 30. This time period may be extended at the discretion of the County Health Officer.

- B. In the case of subdivisions of five (5) or more parcels, more proof of water availability is required, as follows:

1. The County Health Officer shall be furnished all required information thirty (30) days prior to the final map being submitted for consideration by the Board of Supervisors.
2. The minimum of three (3) test wells shall be drilled. The minimum number of productive test wells shall be based on the ratio of one (1) per five (5) lots. The test wells must be located in areas least likely to produce a satisfactory well and must be in a pattern to represent the total area of the subdivision. The pattern and location of test wells must be approved by the Health Department prior to drilling.

Based on other water sources, the well requirement may be waived by the County Health Officer.

3. A complete chemical analysis (including heavy metals) of the water from every third test well. Each test well must have a bacteriologist test.
4. Each test well shall be capable of producing a sustained yield of three (3) gallons per minute for duration of not less than four (4) hours as determined by a pump test.
5. All wells shall be drilled in compliance with the California Water Wells Standards. A Copy of the completed well driller's log which has been filed with the Department of Water Resources shall be submitted to the County Health Officer.
6. The location of each test well must be indicated on a copy of the tentative map.
7. A statement from a registered geologist, or hydrologist as to a sufficient perennial recharge to supply as many wells as proposed for the subdivision and anticipated impact on water quantify for adjacent properties.

#### **Sec. 16.48.125      Solid Waste Disposal**

The subdivider shall indicate the nearest approved solid waste disposal site available to lot owners. Solid waste disposal facilities, acceptable to the County Board of Supervisors, County Planning Commission and County Health Department, may be required to be provided for the subdivision. Plans, specifications, proposed locations, and maintenance plans, or information regarding other proposed means for disposal, shall be submitted prior to request for final subdivision approval.

#### **Sec. 16.48.126      Road Improvement**

- A. Basic Design Objective. It is the policy of Trinity County that roadway design will satisfy the following basic criteria. The roadway will be designed to move

traffic efficiently and safely at prescribed service levels, consistent with the expected use of the roadway, under guidelines promulgated by AASHTO Policy on Geometric Design, and as follows:

1. Legal requirements;
2. Sound engineering principles and practices and engineering geological evaluation if necessary;
3. Traffic safety considerations;
4. Economy of design and maintenance;
5. Allowance for the special nature of Trinity County roads and traffic conditions;
6. Type of traffic; and
7. Zoning.

B. Design Standards for Roadway Categories. It is the policy of Trinity County that design will be based upon the following roadway classifications, use, and level of services:

1. Roadway Category D: (Private Roadway)
  - One lane - low speed, less than 20 mph.
  - No parking permitted on traveled way.
  - Passing areas will be required for roads exceeding 500 feet in length.
  - Serves maximum of 4 parcels.
  - Intended for projects where through access is not existing and/or necessary for other lands in the general vicinity nor necessary for overall circulation needs.
  - These roadways must be encumbered by an exclusive easement for use by only the original parcels created. This is to insure that such roads cannot be utilized for subsequent divisions.

2. Roadway Category #1: (Private Roadway)

- One lane - low speed, less than 20 mph.
- No parking permitted on traveled way.
- Services maximum of twenty (20) parcels.
- Intended for areas where further land use is expected to consist of lots equal to or greater than five (5) acres.

3. Roadway Category #2: (Private Roadway)

- Two lane - will allow for vehicles to pass each other at slow speeds.
- No parking on traveled way.
- Low speed - 15 to 25 mph design.
- Intended for areas where future land use is expected to consist of a mixture of lot sizes but where the predominate lot size is equal to two and one-half (2-1/2) acres.

4. Road Category #3: (Private Roadway)

- Two lane, narrow roadway - Will allow for vehicles to pass each other at slow speeds.
- Parking allowed along traveled way.
- Low Speed - 25 mph design
- Prime and double chip seal may be required
- Intended for area where; future land use is expected to consist of a mixture of lot sizes but where the predominate lot size is one acre or less; and/or where private street functions as a collector.

5. Road Category #4: (Public Roadway)

- Full two lane with at least two 2-foot shoulders.
- No parking on traveled way.

- Intended for areas where future land use is expected to consist of a mixture of lot sizes but where the predominate lot size is greater than one acre.
- Surfacing based on amount of existing or future truck traffic.

6. Roadway Category #5: (Public Roadway)

- Full two lane with two 8-foot wide parking lanes.
- Provides on-street parking. Topography or design may require deletion of parking on one side as approved by Department of Public Works.
- Intended for areas within defined communities or village areas where future land is expected to result in lot sizes generally one (1) acre or less as well as incorporate a variety of land uses; and/or where public street functions as a collector.
- Provisions for sidewalk(s), pedestrian path(s), bike lane(s), etc., shall be provided when required by the Department of Public Works.

C. Guidelines for Determining Roadway Categories:

1. If on-street parking is expected, then a parking lane must be provided. The parking lane need not accommodate more than three (3) vehicles if the lot frontage exceeds 120 feet. If the subdivider does not provide for on-street parking, the topography of the lots must permit normal site development and provide room for the parking of five (5) vehicles.
2. Applicant is responsible for all drainage requirements.
3. In estimating average daily traffic (ADT), the number of lots served by the road in village, community or urbanizing areas shall be multiplied by eight (8). In rural areas, the number of lots served by the road shall be multiplied by five (5).
4. Upon satisfactory completion, roads constructed in accordance with standards of Categories 4 and 5 would qualify for inclusion into the County maintained road system. Roads under Category 2 and 3 would qualify if surfaced with seal coat or asphalt as required by the Public Works Director. Consideration would be given to building setbacks, area's density, length of road, size of parcels, if connected to a public maintained road, and public use and type of traffic.

5. Nothing herein permits the submittal of subdivision improvement plans which do not reflect sound engineering judgment and practices.

D. Other Guidelines:

1. Roads in decomposed granite soils shall conform to one of the road categories required by the Department of Public Works and the following:
  - a. All cut-and-fill slopes shall be seeded and fertilized with recommended seed, fertilizer and mulch as approved by the Soil Conservation Service. (Noted below) This shall be accomplished prior to the first growing season following completion of construction. The objective is to achieve a vegetative cover sufficient, in the judgment of the County Road Inspector, to prevent soil loss from the slopes within two (2) growing seasons following completion of construction. If, in the judgment of the Inspector, this is not physically possible, some other acceptable slope stabilization method may be approved by the Inspector.

Seeding Recommendations

Rec. #1	Luna or Topar Pubiscent Wheat Grass 12 lbs./acre
	Tegmar Dwarf Wheat Grass 12 lbs./acre
	Zorro Annual Fescue 10 lbs./acre
Rec. #2	Zorro Annual Fescue 15 lbs./acre

Fertilizer Recommendations: 16-20-0 at 500 lbs./acre should not be applied more that fifteen (15) days prior to seeding.

Mulch straw at 2 tons/acre or 100 lbs./1000 sq. ft. If blown it should also be tucked into the ground. Hydro mulch at 1500 lbs./acre (Dye should be added to mulch).

Mulching and seeding should be done at the same time.

Planting Schedule  
September 1 to October 15  
March 1 to May 15

For additional information contact Trinity County Resource Conservation District.

- b. Minimum culvert size shall be eighteen (18) inches and all culvert outlets shall terminate on energy-dissipating surfaces, adequate, in the judgment of a civil engineer, to minimize erosive processes arising from any flows carried by said culverts.
- c. Drainage ditches and gutters shall be rocked to prohibit erosion.
- d. For roadways in granite soils, also see Ordinance No. 379.

E. Structures (bridges, culverts, walls, etc.):

- 1. New Structures shall be designed in accordance with Chapter V "Local Roads and Streets" of AASHTO's "A Policy on Geometric Design of Highways and Streets", as revised, and the current edition of AASHTO's "Standard Specifications for Highway Bridges (1)".















2. bridges to Remain in Place shall conform to the requirements as set forth in Chapter V of the above referenced AASHTO Policy on Geometric Design.
3. All bridges shall be founded on permanent foundations and capable of withstanding the 100-year flood.

**Sec. 16.48.127      Fire Protection Improvements**

- A. Basic Design Objectives: It is the policy of Trinity County to insure that the best minimum fire protection needs be incorporated into the subdivision process. To achieve this objective the required improvements will be based upon:
  1. Standards of the local Fire Protection Districts when such standards are more restrictive than the County standards, and the project is within such a district or its sphere of influence;
  2. Site specific characteristics which necessitate alternatives do not lessen the degree of fire protection given;
  3. Economy of design and maintenance; and
  4. The timing of need for such facilities.
- B. Fire Protection Standards - No Central Water System.
  1. Where there is no established water system the following guidelines shall apply:
    - The installation of reservoirs, pressure tanks, elevated tanks, or other fixed systems capable of supplying the required fire flow and/or static source shall be in accordance with the National Fire Protection Association #1231, or
    - With the installation of an approved, supervised, automatic sprinkler system in accordance with NFPA #13 the above formula may be waived as per NFPA #1231, Chapter 4-5.1, or
    - Where the required static source of water is less than 4,000 gallons, on-site water may be omitted if the Fire Department responsible for fire protection has a 25 gallon water tender, or equivalent, located within two and one half miles, or

- A minimum of 500-gallon static source of water is provided per parcel.

C. Fire Protection Standards - Central Water System.

1. Fire Flow General. Fire flow shall be determined in accordance with the following standards. The design engineer should check with the involved agency prior to design. Where an established water system is present, which may be extended, and the system is not substandard to these regulations, or located where district flow standards supercede the fire flow shall be no less than:

<u>Land Use</u>	<u>Minimum Flow</u>	<u>Hydrant Size</u>	<u>Hydrant Spacing</u>
Lot density of less than one single-family residential unit per acre.	500 CPM	6"	750'
Lot density of three or less single-family residential units per acre.	750 GPM	6"	500'
Lot density of more than three single-family residential units per acre.	1000 GPM	6"	500'
Duplex residential units neighborhood business of one story.	1500 GPM	6"	500'
Multiple residential, three stories or higher; heavy commercial or Heavy industrial.	2500 GPM	6"	300'

With the installation of an approved, supervised, automatic sprinkler system in accordance with the NFPA #13, throughout the building, a 50%

reduction may be granted. In no case shall there be less than 500 gpm provided on site.

2. Distribution System. All distribution systems shall be designed to permit circulation of water throughout, except where impractical because of cul-de-sac or like conditions or the incomplete development of a grid system. All dead-end runs shall be provided with a means of flushing. All distribution system materials shall be new and free of defects.
3. Size of Mains. Water mains shall be of adequate size and so designed in conjunction with related facilities to provide the fire flow rate at all points in the system during the time of average daily demand with a minimum pressure of 20 psi.

All water mains used or useful for fire protection shall have a minimum nominal diameter of six (6) inches, and shall be sufficient size to supply 500-gpm flow from two (2) hydrants for a period of two (2) hours.

4. Fire Flow Test. A fire flow test shall be made by the fire department representative with the developer and/or engineer present prior to acceptance of said system. The fire department and water supply agency shall be notified of said test a minimum of twenty-four (24) hours prior to performance of said test. The fire flow test shall be performed in accordance with PUC standards and minimum standards set forth by the NFPA relating to fire flow test.
5. Fire Flow Substandard Conditions. In an area served by a substandard water distribution system that does not qualify for the minimum current fire flow standards of this Ordinance, the water supply formula from NFPA #1231 shall be used with the provision that a factor to determine "water storage capacity" shall be obtained through the use of the following formula:

Each gpm of recorded fire flow (20 psi residual at the site) shall be equivalent to ten (10) gallons of water storage capacity.

#### **Sec. 16.48.130      Oversizing Improvements; Reimbursement**

As a condition of approval of a tentative map it may be required that improvements installed by the subdivider for the benefit of the subdivision be of a supplemental size, capacity or number for the benefit of property not within the subdivision, and that said improvements be dedicated to the public. If such a condition is imposed, provision for reimbursement to the subdivider in the manner provided by Section 66486 of the Subdivision Map Act shall be contained in the subdivision improvement agreement.

#### **Sec. 16.48.140      Improvement Agreement**

If the required improvements are not satisfactorily completed before a final map or parcel map is filed with the County Surveyor, the subdivider shall enter into an agreement with the County to make all improvements as may be required upon approval of such map. The requirements of such improvement agreement shall not be waived under any circumstances.

**Sec. 16.48.150 Form, Filing and Term of Improvement Agreement**

The improvement agreement shall be in writing, shall be approved as to form by the County Counsel and shall be secured and conditioned as provided in this chapter. An acknowledged abstract of said agreement shall be recorded simultaneously with the final map or the parcel ma. The improvement agreement, and acknowledged abstract thereof, shall be complete, subject to Board approval, and on file with the County Surveyor before the final map or parcel map is accepted for filing. The term of each improvement agreement filed pursuant to the provisions of this section shall begin on the date of filing and end upon the date of completion or fulfillment of all terms and conditions contained therein to the satisfaction of the County Surveyor.

**Sec. 16.48.180 Liability for Alterations or Changes**

The liability upon the security given for the faithful performance of the agreement shall include the performance of any changes or alterations in the work; provided, that all such changes or alterations do not exceed ten percent (10%) of the original estimated cost of the improvement.

**Sec. 16.48.190 Release of Improvement Security - Completion of Work**

Improvement security may be released upon the final completion and acceptance of the work; provided, such release shall not apply to the required quaranty and warranty period nor to the amount of security deemed necessary by the County Surveyor for such quaranty and warranty period nor to costs and reasonable expense fees including reasonable attorney's fees.

The County Surveyor shall accept and certify to the satisfactory completion of improvement work prior to any release of improvement security covering such work. The certificate of completion signed by the County Surveyor shall authorize the release of the improvement security in the manner provided by law.

**Sec. 16.48.200 Withholding of Building Permits**

No building permit or similar entitlement of use shall be issued for the development of any lot within a subdivision until all required improvements are substantially completed to the satisfaction of the County Surveyor; provided, building permits and entitlements may be used for the development of lots within a subdivision when the County Surveyor determines:

- A. That a private contract for construction of all required improvements (guaranteed by performance and payment bonds) has been awarded by the subdivider and approved by the Board, or that a contract for construction of all required improvements has been awarded by the Board pursuant to special assessment proceedings; and
- B. If the improvements are to be constructed by private contract, the work of improvement has commenced and is progressing at a rate and in a manner which is reasonable under the circumstances; and
- C. The development of the lot will not conflict with work in progress on the construction of the required improvements.