

CHAPTER SIXTEEN

PLANNING STANDARDS AND RATIOS

INTRODUCTION

To the maximum extent possible, the Grass Valley General Plan Update proposes to incorporate the planning standards and ratios used in the Nevada County General Plan. This practice facilitates City-County cooperation in matters of future planning, public service and facility deliberations, and annexations.

STANDARDS AND RATIOS

1. Job generation by land use type.
 - Commercial (all but downtown areas)
 - Building area ratio: 0.25 (square feet of building coverage : acreage)
 - Employment ratio: 1:800 (employment per sf of bldg coverage)
 - Commercial (downtown areas)
 - Building area ratio: 0.75 (square feet of building coverage : acreage)
 - Employment ratio: 1:800 (employment per sf of bldg coverage)
 - Office-Professional
 - Building area ratio: 0.20 (square feet of building coverage : acreage)
 - Employment ratio: 1:400 (employment per sf of bldg coverage)
 - Business Park
 - Building area ratio: 0.20 (square feet of building coverage : acreage)
 - Employment ratio: 1:400 (employment per sf of bldg coverage)
 - Industrial
 - Building area ratio: 0.15 (square feet of building coverage : acreage)
 - Employment ratio: 1:600 (employment per sf of bldg coverage)
2. Persons per dwelling unit.
 - 2.40 for Western part of Nevada County, based upon 1990 Census.
3. Balanced community (housing types).

Hypothetical parameter, not necessarily one to be established as a target to be achieved.

- 70% single family

- 30% multi-family
- (Statewide ratio is 67-33)

4. Jobs/Housing Balance

- Theoretical balance = 1:1
- 1990 jobs/housing ratio for State of California = 1.20:1
- 1990 jobs/housing ratio for Nevada County = 0.90:1
- Placer County ranges from 1.23:1 to 1.60:1 (results of two studies)
- Incorporated Grass Valley/Nevada City areas combined 0.88:1
- Unincorporated Nevada County 0.81:1
- Unincorporated Nevada County (revised to remove seasonally vacant housing units) 0.91:1
- Nevada County total 0.82:1

5. Dwelling units per gross acre. Criteria to determine buildout population based upon County GP land use designations.

Dwelling Units per Gross Acre:

- Urban High Density Residential - 20 maximum within incorporated area spheres of influence and 15 elsewhere.
- Urban Medium Density Residential - 6 d.u./acre
- Urban Single Family Residential - 2.5 d.u./acre
- Residential - 0.66 d.u./acre
- Estate - 0.33 d.u./acre
- Rural 5 - 0.2
- Rural 10 - 0.1
- Rural 20 - 0.05
- Rural 30 - 0.033
- Rural 40 - 0.025
- Forest 40 - 0.025
- Rural 160 - 0.00625
- Forest 160 - 0.00625

6. To calculate net dwelling units per acre (allowing for actual developable area, rather than theoretical):

Multiply gross d.u./acre by 0.9 for the following categories (0.85 for all others):

- Rural 5 through Rural 160
- Urban High Density
- Urban Medium Density
- Forest categories

7. Population per Dwelling Unit

- Western County: 2.4 persons per dwelling unit
- Eastern County: 1.8
- Weighted Average: 2.15

8. Standard criteria for determining employment and commercial land areas needed to support certain population levels:

- Local Commercial (including Neighborhood and Rural) - 2.0 acres per 1000 population
- Community and Service Commercial - 5.0 acres per 1000 population
- Highway Commercial - No specific criteria (not resident-population based)
- Office-Professional - 1.0 acre per 1000 population
- Business Park and Industrial -15.0 acres per 1000 population

9. Granny Flat Factor

Add 3% to projected buildout dwelling units to derive projection of number of second dwelling units, or granny flats, likely to be added to the housing stock.

10. Population Buildout Projections

	Low	Mod	High
Nevada County	154953	158931	162726
Western County	128056	131819	135471
GV Com Region	33900	33900	33900

11. Water Systems – Nevada Irrigation District (NID)

- District area 286,800 acres in Nevada, Placer, Yuba Counties
- 200,000 acres in Nevada Co., 70% of District
- 10 reservoirs totaling 250,280 acre feet
- 14400 customers, treated water = 7,000 acre feet annually
- Customer base increasing at 2% per year
- Grass Valley purchases raw water from NID year round. 104 million gallons purchased in 1990/91. The 2,105 metered connections in the City of Grass Valley. Grass Valley treats water purchased from NID prior to distribution.

12. Design Water Use Criteria (gpm means gallons per minute; gpd means gallons per day)

<u>User Type</u>	<u>gpm</u>	<u>Max Daily Use</u>
Domestic (per Dwelling Unit)	1.0	1440
Commercial (per acre)	2.1	3024
Light Industrial (per acre)	2.1	3024

Institutional (per acre)	3.5	5040
Parks (per acre)	1.4	2016

Max day demand/average day demand: 2.5
 Peak hour demand/max day demand: 2.0
 Peak hour demand/average day demand: 5.0

- Persons per Equivalent Dwelling Unit (EDU)
 - 2.5 (used by NID)
 - 2.3 (used for population projections in Nevada Co. General Plan)

13. Grass Valley Water System

- Average Daily Flows
 - Water Production per Year : 104.0mg
 - Existing Connections or EDUs: 2105
 - Average Daily Flow per EDU: 135gpd
 - Maximum daily flow per EDU: 337.5gpd

14. Commercial and Industrial Water Use

- Retail 22 gallons per employee per day
- Office 88 gallons per employee per day

15. Fire Flows

	Fire Flow (gpm)	Duration (hours)
Residential low density	500	2
Urban single family	500	2
Urban medium density	1000	2
Urban high density	1000-2000	2
Commercial	1000-2000	2 - 4
Industrial	1500-3500	2 - 4
School	2000	4

16. Treated Water Storage (TWS)

TWS for a domestic water supply is generally provided for three purposes: equalizing, fire reserve, and emergencies. NID requirements:

- minimum equalizing storage = 25% of max day demand
- minimum emergency reserve = 25% of max day demand
- Grass Valley Storage
 - Maximum daily flow: 337.5gpd
 - Fire Flow: 360,000 gpd

- Equalizing gpd: 84.4
 - Emergency gpd: 84.4
 - Total gpd: 360,168.8
 - Existing storage available 0.00
- Grass Valley average water use (combined with E. George water service area): 495 gallons per day

17. Wastewater

- Wastewater flows generally = 2/3 of water system flows
- Grass Valley average combined wastewater generation = 281 gallons per day

Wastewater Flows – Grass Valley Community Region

- Existing daily ave. flow: 1,272,000gpd
- Connections or EDUs 4,530
- Ave. flow per connection: 281gpd

18. Jail Standard

- 1 bed per 1,000 population

19. Parks

- County Department of Transit, Aviation, and Recreation standards are:

5.0 acres per 1000 persons in rural areas
9.5 acres per 1000 persons in urban areas

20. Libraries

- 500 square feet per 1000 population

21. Fire Protection Facilities

- 1.73 paid staff per 1000 population

22. Schools

- elementary 55 square feet of building area per student
- junior high 75 square feet per student
- high school 85 square feet per student
- 25 students per teacher average

23. Land use density assumptions for vacant, developable land within city limits and in unincorporated portions of planning area.

- Land Use Assumptions/City Zoning Classification
 - R-1, Single family residential = 3.36 dwellings/acre
 - R-2A, Medium density residential district = 6 dwellings/acre
 - R-2, Two family residential = 6 dwellings/acre
 - R-2AMH, Mobile home residential = 6 dwellings/acre
 - R-3, Multiple family residential = 8 dwelling units/acre
 - Commercial/Industrial Zoning Districts = 8000 sq-ft of gross building area/acre

- Land Use Assumptions/County Classification
 - RA, Residential Agriculture = 2.36 dwellings/acre
 - R-1, Single family residential = 3.36 dwellings/acre
 - R-3, Medium density multiple family residential = 8 dwelling units/acre
 - R-3MHD, Medium density multiple family residential, mobile home = 13 dwellings/acre
 - Commercial/Industrial Zoning Districts = 8000 sq-ft of gross building area/acre

Source: Nevada County General Plan, Volume 2: Background Data and Analysis, 1995.

Source: City of Grass Valley, 1997 Sphere of Influence Plan Update (Master Services Element) Preliminary Draft No. 2, June 1, 1998.

Additional Source of Identical Information: Grass Valley Planning Department, Vacant Land Inventory. Inventory conducted 12 Feb 96, updated 20 May 98.