Specific Plan / Master
Environmental
Impact Report

WHISPERING PINES CORPORATE COMMUNITY

City of Grass Valley,
California

February 1984

PLANNING TEAM
wpm INCORPORATED
CONSULTANTS IN PLANNING, DESIGN & DEVELOPMENT

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SPECIFIC PLAN/MASTER ENVIRONMENTAL IMPACT REPORT

WHISPERING PINES CORPORATE COMMUNITY

SEPTEMBER 1983

ADOPTED: FEBRUARY 14, 1984

Prepared for : City of Grass Valley
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Grass Valley , Ca.

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29 February 1984

Planning Commission/
City Council
City of Grass Valley
Grass Valley, California 95945

Dear Public Officials:

In accordance with our contract with the City, we are pleased to submit the adopted Specific Plan/EIR for the Whispering Pines Corporate Community.

This Specific Plan will have a far reaching effect. When completed the Corporate Community will be a major feature in the character and form of the City. It will provide jobs for area residents and revenue that can be used in other areas of the community.

The Specific Plan provides for the necessary high standards which will be primary in the success of this project.

Equally important to its success will be the ongoing committment of both the private and public sector to see that such standards are achieved.

I wish to thank both public officials and landowners alike for their participation in the formulation and review of this Plan.

Sincerely,

Rudolph R. Platzek

Rudolph R. Platzek,
President

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The following people have made valuable contributions during the preparation of Specific Plan Number 1 (draft) and their help and participation have been greatly appreciated.

Grass Valley City Council

Dennis Hill, Mayor
Frank E. Knuckey
Don W. Carmichael
Arletta Douglas, Assistant Mayor
Al Frisch, Sr.*
Mike Dickey

Grass Valley Planning Commission

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Grass Valley City Staff

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John Straka, Fire Chief
Jim McGarva, Fire Marshal
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Dwight Moore, City Attornay
Claudia Barnes, Secretary

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Chapter 1

INTRODUCTION

1.1 PURPOSE OF THE SPECIFIC PLAN

Specific plans were first made possible by the State Legislature in 1965. Since that time the Legislature has steadily increased the possible uses and role of the Specific Plan. The basic purpose of the Specific Plan is to implement the General Plan of a jurisdiction to make the General Plan happen.

The role of Specific Plans can range from identification and clarification of City policies to the way public facilities are funded and operated. This means that planning, regulations, design, and engineering details can be included in one document. Regulations and standards can be tailored to specific sites rather than to city-wide zones.

This Specific Plan for the Whispering Pines Corporate Community will serve as its own zoning district. Such a district is tailored to this location where a broad and complex development concept is involved.

General zoning provisions have been provided in Appendix B by which to establish a Specific Plan Development District for any area including this area. The type of development can be industrial, commercial or residential, some subcategory of use or some combination of uses. The purpose is to maintain City control over development standards and appearance while offering developers flexibility in parcel assembly, construction phasing and funding of infrastructure.

Other purposes to be served are as follows:

- Comprehensive City evaluation of benefits and costs of potential development, prior to the annexation decision.

- City prezoning.
- Basis for LAFCO determinations on boundaries.
- Comprehensive guide for subsequent individual tentative subdivision maps.
- Master environmental impact document covering all parcels.
- Marketing tool for landowners and developers.

1.2 BACKGROUND FOR THE SPECIFIC PLAN

The project site situated at the intersections of Brunswick and Idaho-Maryland Roads consists of 154 acres, comprised of 10 parcels. The western end of the site was part of the famous Idaho-Maryland Mine. The generally north facing slopes of the site are part of the southern perimeter of the Glenbrook Basin. These slopes overlook the flatter floor of the Basin and the fast developing commercial/office complex at the Brunswick Road - Highway 49 Interchange. Because of freeway access to western Nevada County, central location within the Grass Valley - Nevada City urban area and developable sites, the Glenbrook Basin (which includes this project) will emerge as the regional civic core.

Demand is growing in western Nevada County for well-planned and protected industrial, service commercial and office parcels in a high-quality environment.

1.3 STUDY APPROACH AND METHODOLOGY

After thorough review of the issues with City officials and property owner representatives, a single document was prepared which incorporated the following three planning phases:

- Environmental Assessment, prepared at the outset of the study, which identified major potential environmental impacts and planning factors that needed to be mitigated or reflected by sensitive specific planning.

- A Draft Specific Plan which was prepared to reflect all possible mitigations of the Environmental Assessment in sufficient detail to guide future land use decisions on individual parcels.

- A Draft Master Environmental Impact Report was then prepared on the Draft Specific Plan to analyze possible remaining impact areas not fully mitigated in the Specific Plan and to recommend supplemental mitigations.

1.4 REPORT CONTENT, STRUCTURE AND FUNCTION

The Specific Plan is divided into six chapters as follows:

Function

Background Information

- Chapter 1 - Introduction, identifies the purpose of the study, describes the study area and summarizes the Specific Plan.

Background Information To Be Certified As Part Of The EIR

- Chapter 2 - Existing Setting, summarizes important considerations -- both natural and urban -- which influenced the preparation of the Specific Plan. This chapter also provides the "existing setting" section of the Environmental Impact Report.

To Be Adopted

- Chapter 3 - Development Concept, describes the overall organizational concept for the planned Corporate Community including land use, access and circulation and natural resource management.

To Be Adopted

- Chapter 4 - Conditions for Development, contains conditions to be applied in the preparation and review of individual projects within the Specific Plan area such as basic policies, specific permitted land uses, overall development standards and guidelines and subarea requirements.

To Be Adopted

- Chapter 5 - Specific Plan Administration, establishes the process for adoption of the Specific Plan and outlines the mechanism for processing development proposals.

To Be Certified as Part of the EIR

- Chapter 6 - Impacts, Mitigations and Alternatives which, along with Chapter 2, constitutes the Environmental Impact Report on the Specific Plan.

- Appendices provide additional technical and support information.

1.5 DESCRIPTION OF THE SPECIFIC PLAN AREA

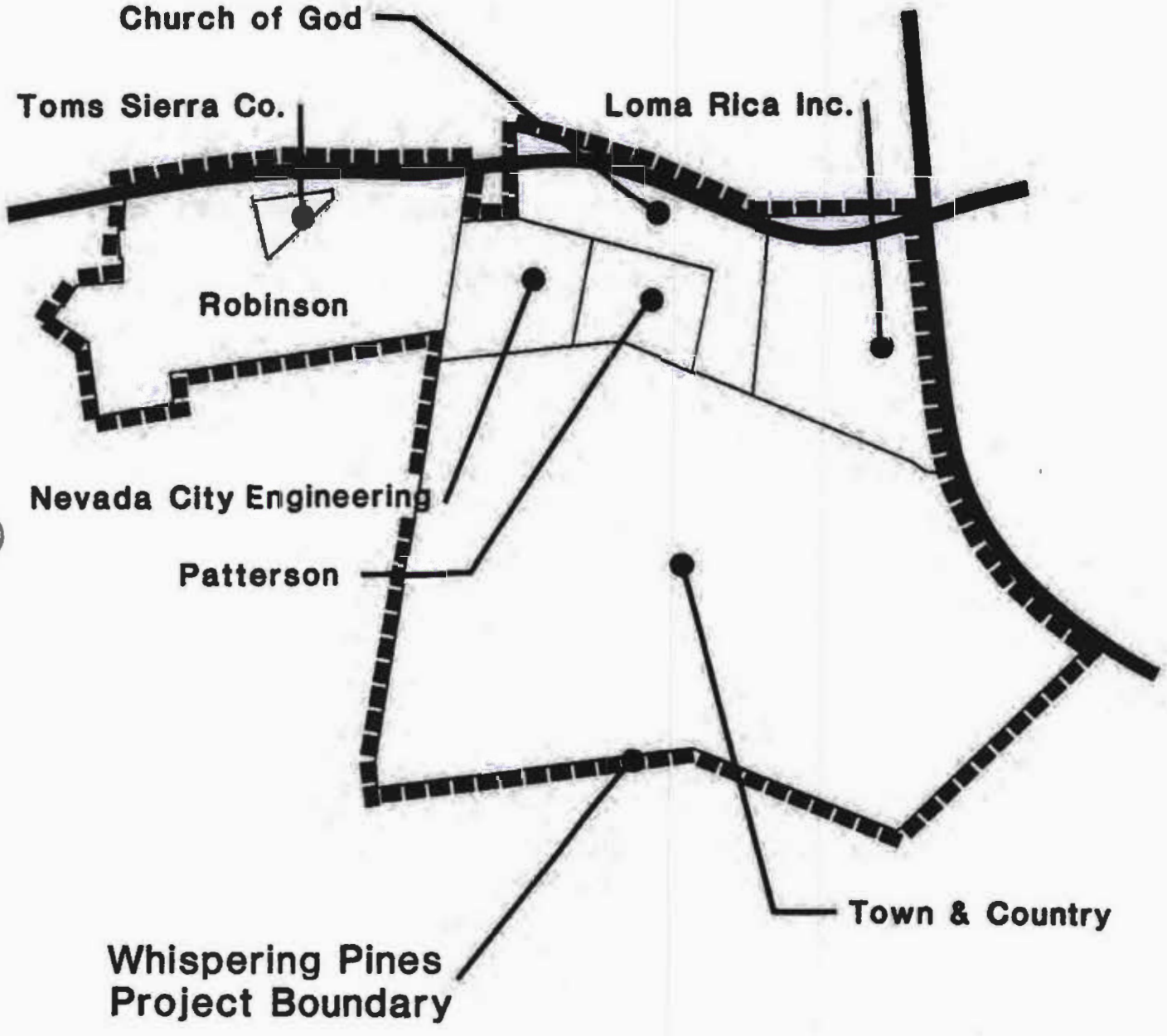
The project properties consist of 10 separate parcels located on the eastern edge of the City of Grass Valley. Seven owners have title to these 10 parcels as indicated below. The properties include a total of 154.2 acres (see Figure 1-1).

THE PROJECT PROPERTIES
August 1983

Ownership	Number of Parcels	Acres
Town and Country	1	91.2
Robinson	1	23.0
Toms Sierra Co.	1	1.5
Nevada City Engineering	1	7.0
Loma Rica Inc.	1	15.3
Church of God	2	11.0
Patterson	3	5.2
TOTALS	10	154.2

FIGURE 1-1

OWNERSHIPS



The first five of these seven owners have petitioned the City of Grass Valley to be annexed to the City and have requested that a Specific Plan be prepared for their properties. However, the City has delineated a Specific Plan area which includes the seven ownerships.

The City's General Plan recommends that proposed annexations of larger areas be the subject of a Specific Plan prior to prezoning and annexation. Because the potential exists for the preparation of several specific plans and because this Specific Plan is the first prepared it has been designated Specific Plan Number 1 (SP-1).

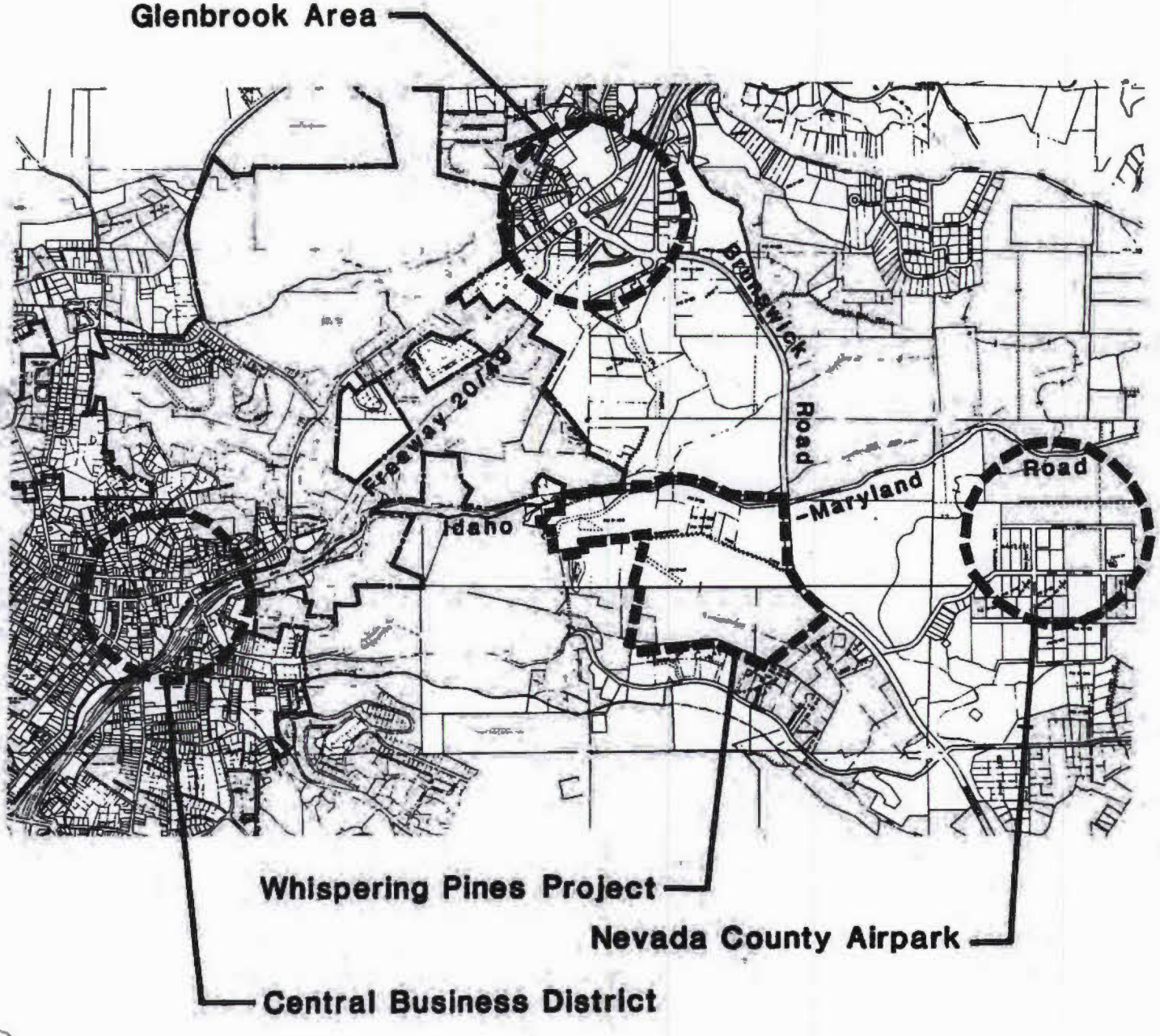
The properties of the Specific Plan area are strategically located since they are at the southwest corner of two of the main roads serving the eastern side of the City. Brunswick Road provides a north-south arterial from the Glenbrook Shopping District and a Freeway 49 interchange, about one mile to the north of the properties, and the Colfax Highway (State Route 174). The other arterial is the Idaho-Maryland Road, an east-west route, providing direct access to a second Freeway 49 interchange (0.7 miles to the west of the subject properties and the City of Grass Valley's Central Business District - CBD). The Nevada County Airpark, and its industrial district, are located about 0.7 miles to the east with access via Loma Rica Drive and its connection to Brunswick Road. The project properties location and relationships to the CBD, Glenbrook Shopping District, Freeway 49, and the Airport area are shown on Figure 1-2.

The project properties have a frontage of more than 3,500 feet on the Idaho-Maryland Road and about 2,200 feet on Brunswick Road.

The subject properties generally slope north towards Wolf Creek, which runs just north of the Idaho-Maryland Road to the mid-point of the Robinson ownership. At this point it crosses beneath

FIGURE 1-2

PROJECT RELATIONSHIPS



the road and continues westward along the northern edge of the Robinson property.

Two roads presently provide access to the project properties. The first is Whispering Pines Lane which originates at Brunswick Road and runs westward along the north side of the Town and Country properties. It provides access to and forms the southern boundary of the Loma Rica Ranch, Church of God, Patterson, and Nevada City Engineering properties. Two other private access roads begin from Idaho-Maryland Road near the east end of the Robinson property and serve both the Robinson property and the Tom's Sierra Company parcel.

The Robinson ownership contains a number of industrial buildings and sheds. The Tom's Sierra Company property has a petroleum bulk storage plant. The Nevada City Engineering property has one residence. The Patterson property has a house and carpentry shop and the Church of God parcel has a church. Properties on the west end of SP-1 have been graded or display remnants from the previous mining operations that occurred on the properties.

1.6 IMPETUS FOR THE SPECIFIC PLAN

As mentioned previously, five of the seven owners of the various parcels within the SP-1 area have petitioned the City for the preparation of a Specific Plan, prezoning and annexation. Currently this land is not provided with urban facilities, utilities and services. Annexation will provide the opportunity for full municipal services.

Beyond this reason, growing firms within and from outside the County are investigating the Grass Valley-Nevada City areas for possible sites to locate their new facilities. Among the various

reasons for this interest, two stand out:

- The demonstrated ability of the Grass Valley Group to attract and retain an adequate labor supply. A stable, motivated labor force improves the competitive edge for firms facing intense local, national and international competition.

- The Grass Valley area is desirable for its high quality of life. The character of the community, beauty of the natural setting and favorable climate are factors which will attract and retain the needed labor supply.

The most successful local government program for attracting firms needing to expand into new facilities are those which add certainty and speed to a company's move. Today (1983) there are very few available sites in the Grass Valley-Nevada City area which do not have major development obstacles. The preparation of the Specific Plan, annexation and the rapid provision of municipal services will make well-planned and protected sites within the Whispering Pines Corporate Community attractive to local and outside firms and speed up permit processing. With adoption of the Specific Plan and annexation, zoning changes or district annexations will not be needed. Requirements and constraints are clearly stated so that the construction period and eventual opening of the building can be accurately planned. A firm can apply for a permit with reasonable certainty that it can be rapidly processed.

1.7 SUMMARY OF THE SPECIFIC PLAN

A. SCOPE AND PURPOSE

In September, 1982 the City of Grass Valley adopted an updated General Plan. It designates 84 percent of the site as a

suitable location for a planned employment center and the remainder as a manufacturing-industrial district. The General Plan recommends that a specific plan be prepared for planned employment centers prior to City approval of development plans.

The Specific Plan for the Whispering Pines Corporate Community was prepared in 1983 to meet these planning requirements, overcome site development obstacles and spell out how this area should be developed. This Specific Plan includes planning recommendations which are much more detailed than the General Plan, yet it is not as detailed as a subdivision proposal. The intermediate level of detail allows considerable flexibility on the part of each owner within the Specific Plan area to respond individually to changing market conditions within a guiding framework.

The Specific Plan also establishes a development concept as the basis for coordination among the landowners and provides guarantees for a managed environment, both of which are attractive to firms seeking locations in the community. The result should be higher returns to investment for landowners and developers, jobs added to the community, and needed tax revenues to public agencies.

B. ELEMENTS OF THE SPECIFIC PLAN

The elements of the Specific Plan required by State planning law are found in various chapters as follows:

- Applicable General Plan policies and land use designations which are to be carried out by the Specific Plan (Chapter 2).

- Development objectives (Chapter 3).

- Comprehensive plan for land use, circulation, open space and conservation (Chapter 3).

- Criteria for the preparation of development proposals to deal with special design and environmental concerns such as building design, landscape development, signs, aircraft noise and design review (Chapter 4).

- Procedures for implementing the Specific Plan (Chapter 5).

C. PROPOSED LAND USE

The Specific Plan provides sites for a planned corporate community consisting of compatible groupings of industrial, office, service commercial and residential uses as shown on Figure 3-1: Comprehensive Plan Map.

1. Corporate District (SP-1A)

One hundred and twenty-five (125) acres have been set aside on Figure 3-1 for large, intermediate and small firms, particularly "hi-tech", seeking to build facilities on improved sites within the highest quality environment.

2. Industrial/Services District (SP-1B)

Nineteen (19) acres for light and medium industries and service uses are provided, mainly to provide sites for local firms needing municipal facilities and services within a good environment.

3. Housing District (SP-1C)

Ten (10) acres have been set aside for a townhouse complex in an open space setting for workers and managers employed in this area.

4. Streets and Other Public Facilities

The major street serving the Corporate Community will be Whispering Pines Lane. It will be improved to parkway standards and extended westerly to intersect with a new connector to be built between Idaho-Maryland Road and Bennett Street. Other improvements include extension of the City's sewer system and NID's water system.

5. Open Space and Conservation

Figure 3-1: Comprehensive Plan Map provides for reservation within the Specific Plan area of a portion of the proposed Wolf Creek Parkway. Maintained buffer areas are required around the perimeter of the site. Throughout the project area, the Ponderosa Pine forest setting is preserved as the "whispering pines" theme.

6. Design Review

A Whispering Pines Lane Design Review Corridor of 150 feet in depth on each side of the street is identified. Development proposals within the corridor will be subjected to design review by a 3 member design review committee. Corporations seeking sites will be very sensitive about the appearance of the approaches to their facilities. Design guidelines are provided to avoid unpredictable whims of individuals. Design review cannot assure good designs, but it can prevent construction of projects that would clearly be detrimental to their neighbors. A design review process along Whispering Pines Lane will relieve uncertainty on the part of firms seeking sites in this area as to the commitment to a high quality corporate setting.

7. Development Characteristics

When the Whispering Pines Corporate Community is fully built out, approximately 2,150 employees will work in it.

Of the 500 jobs expected to be added within the Grass Valley and Nevada City area each year, thirty percent or 150 could be provided by this development per year over a 10-15 year period. Other project factors by employment subarea are noted below:

PROJECT FACTORS BY TYPE OF INDUSTRY

Whispering Pines Corporate Community

August 1983

Project Factors	Corporate District	Industrial/Service District
Major Uses	Offices R&D Hi-Tech	Lt. & Med. Ind., Warehse., Distribution and Services
Building Types	1 or 2 Stories and Hi-Bays	1 or 2 Stories and Hi-Bays
Bldg. Area/Acre (SF) Coverage	10,000 23%	12,800 29%
Employees/Acre	23.1	11.5
Land Value/Sq. Foot	$2.50	$1.50
Acres	125	19

Source: WPM Planning Team, Inc. September, 1983.

Chapter 2

EXISTING SETTING

Chapter 2

THE EXISTING SETTING

This Chapter identifies natural and urban factors which could significantly influence planning for and development of the site. These factors are briefly summarized on the following pages and identified on Figure 2-1: Development Constraints on the next page. A fuller discussion of significant issues is contained in Chapter 6 of this document. This Chapter will be certified as part of the EIR.

2.1 NATURAL FACTORS

A. GEOTECHNICAL*

- There are several areas of moderately steep slopes (12-25 percent); however most slopes appear stable. There is indication of minor soil displacement on the northerly edge of the site near the existing power lines where slopes exceed 2:1.

- Generally, the site's underlying bedrock is resistant to erosion, except for a small area south of Whispering Pines Lane which is moderately susceptible.

- The site's overlying soils are moderately susceptible to erosion on unvegetated slopes.**

- The westerly portion of the site has been severely disturbed by previous grading and mining activities, creating potentially unstable areas.

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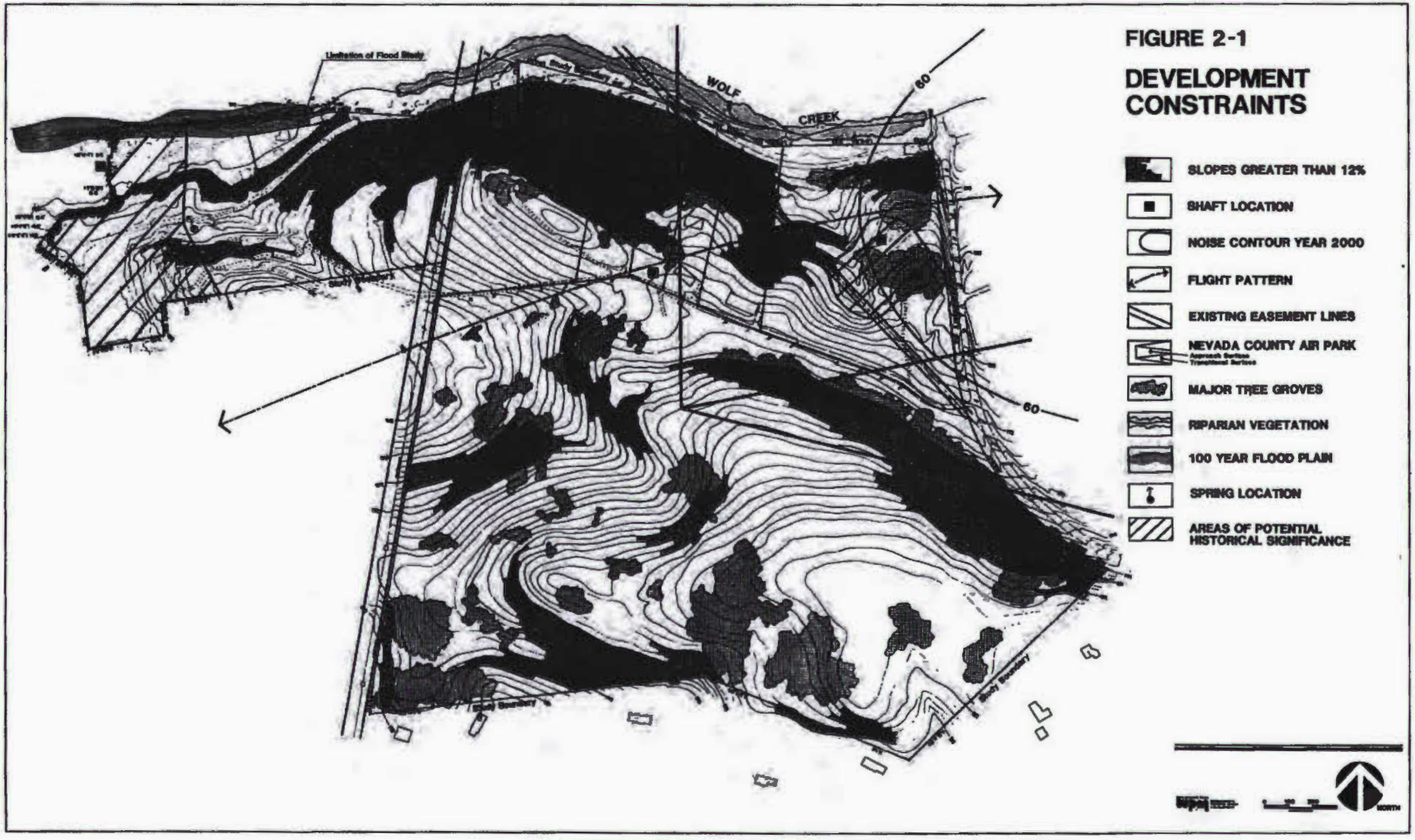
* A preliminary geotechnical report was prepared by Lowry and Associates and is available at the City Planning Department.

** Based on U.S. Army Corps of Engineers criteria.


Limitation of Flood Study
WOLF
CREEK
60
60
Study Boundary
FIGURE 2-1
DEVELOPMENT CONSTRAINTS
SLOPES GREATER THAN 12%
SHAFT LOCATION
NOISE CONTOUR YEAR 2000
FLIGHT PATTERN
EXISTING EASEMENT LINES
NEVADA COUNTY AIR PARK
MAJOR TREE GROVES
RIPARIAN VEGETATION
100 YEAR FLOOD PLAIN
SPRING LOCATION
AREAS OF POTENTIAL HISTORICAL SIGNIFICANCE
NORTH

- Certain areas of the site may require subdrainage to accommodate underground seepage caused by on-site springs.

- There are several open mine shafts on the site which must be treated to promote an acceptable level of safety. It does not appear necessary to treat any of the horizontal mine workings associated with on - or off-site mine shafts.

B. HYDROLOGY

- Wolf Creek, a natural waterway which parallels the site's northern boundary, is subject to downstream flooding, especially in the vicinity of Mill Street.

- Idaho-Maryland Road is subject to potential flooding in the project vicinity.

C. VEGETATION AND WILDLIFE

- The project site has three distinct vegetative areas, each with its own unique characteristics: successional forest, riparian corridor, and disturbed areas.

- There are significant tree groves of ponderosa pine and fir scattered throughout the site and extensive undercover.

2.2 URBAN FACTORS

A. LAND USE AND PLANNING CONSIDERATIONS

- Existing uses on the site include:
  - bulk plant, trucking company, truck repair shop and a masonry supply company west of the power lines;
  - Whispering Pines Lane, a partially paved roadway leading from Brunswick Road to the western portion of the site;
  - two single-family residences; and
  - the Church of God.

- The site consists of multiple parcels of varying size and ownerships. (See Figure 1-1.)

- Portions of the site lie within safety zones established by the Nevada County Air Park. (See Figure 2-1.) These zones have varying height limitations which must be observed to ensure aircraft and human safety.

- A portion of the site also lies within the Airport's Year 2000 60 CNEL contour. (See Figure 2-1.) Residential structures located within this zone (except single-family detached), may require an acoustical analysis.

B. TRAFFIC AND CIRCULATION

- All intersections along the roadways serving the project site are operating at acceptable service levels** with the exception of Brunswick Road/Sutton Way. (See Figure 2-2.) There is occasional congestion at all four intersections along Brunswick Road due to traffic backups.

- The 1983 Grass Valley General Plan delineates several roadway extensions which would affect traffic flow near the project site (see Figure 2-2):
  - Sutton Way would be extended southward to Idaho-Maryland Road near Wolf Creek Bridge.
  - A connector road would be developed between Idaho-Maryland and East Bennett Street west of the site.
  - Whispering Pines Lane would be extended westward to the proposed southward connector between Idaho-Maryland and East Bennett Street.

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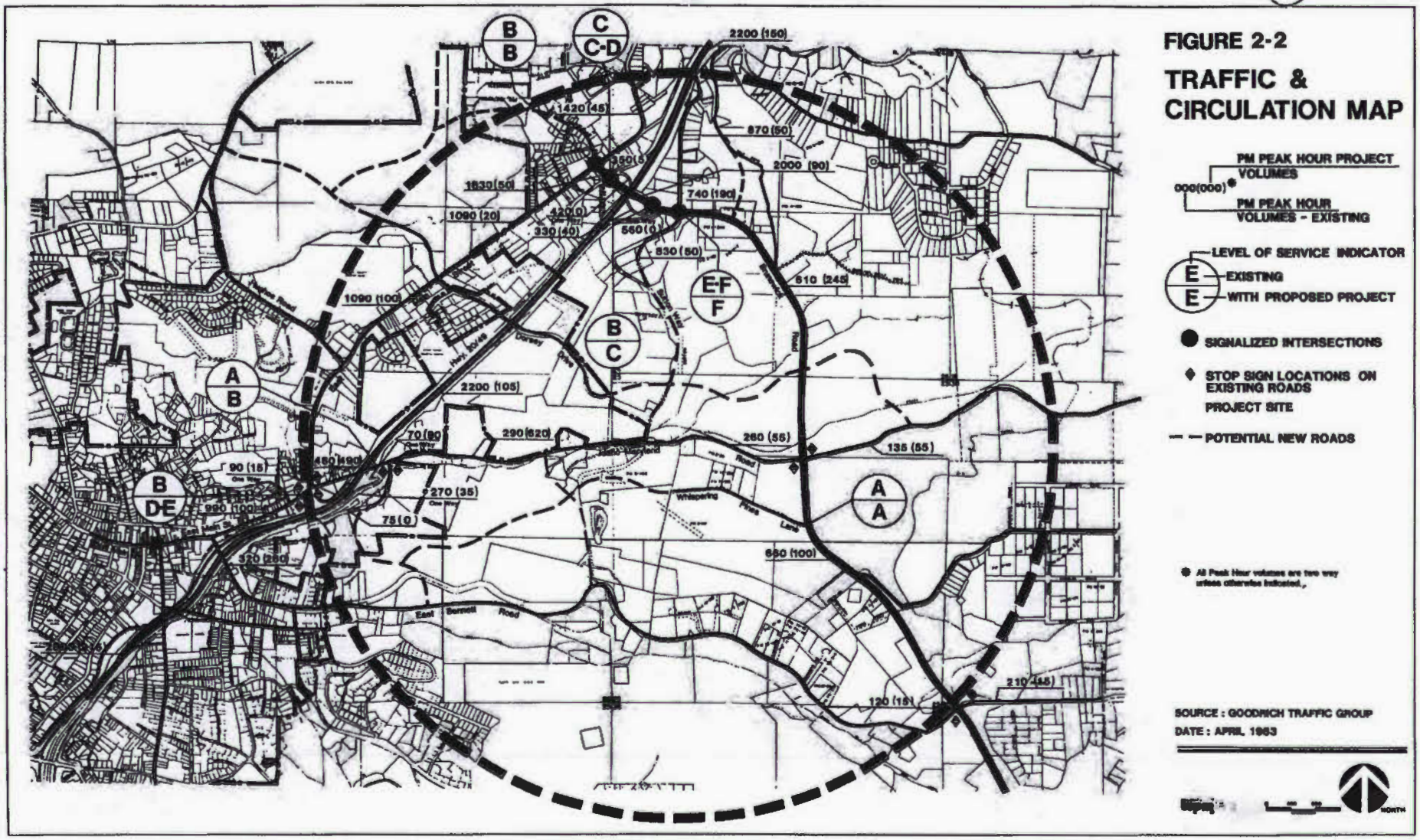
* California Administrative Code, Title 25, Chapter 1, Subchapter 1, Article 4, Section 1092.

** Level of Service (LOS) is a measure of intersection capacity, based on traffic congestion and driver delay. For further discussion see the Traffic and Circulation Section in Chapter 6 of this document.


B
B
C
C-D
2200 (150)
1420 (45)
870 (50)
2000 (90)
1830 (50)
740 (190)
1090 (20)
420 (0)
330 (40)
560 (0)
830 (50)
E-F
F
810 (245)
1090 (100)
B
C
A
B
2200 (105)
70 (80)
290 (620)
260 (55)
135 (55)
90 (15)
480 (490)
B
D-E
990 (100)
270 (35)
75 (0)
A
A
320 (260)
690 (100)
210 (45)
120 (15)
FIGURE 2-2
TRAFFIC &
CIRCULATION MAP
PM PEAK HOUR PROJECT VOLUMES
000(000)*
PM PEAK HOUR VOLUMES - EXISTING
LEVEL OF SERVICE INDICATOR
E
E
EXISTING
WITH PROPOSED PROJECT
SIGNALIZED INTERSECTIONS
STOP SIGN LOCATIONS ON EXISTING ROADS
PROJECT SITE
POTENTIAL NEW ROADS
* All Peak Hour volumes are two way unless otherwise indicated.
SOURCE : GOODRICH TRAFFIC GROUP
DATE : APRIL 1983
NORTH

C. PUBLIC SERVICES AND FACILITIES

1. Water

- A small portion of the site (see Figure 2-3) lies outside the Nevada Irrigation District (NID) and would need to be annexed before it could be serviced. However, the district currently has a moritorium on annexations because of tax split questions with the County. This area may not require annexation depending on building location.

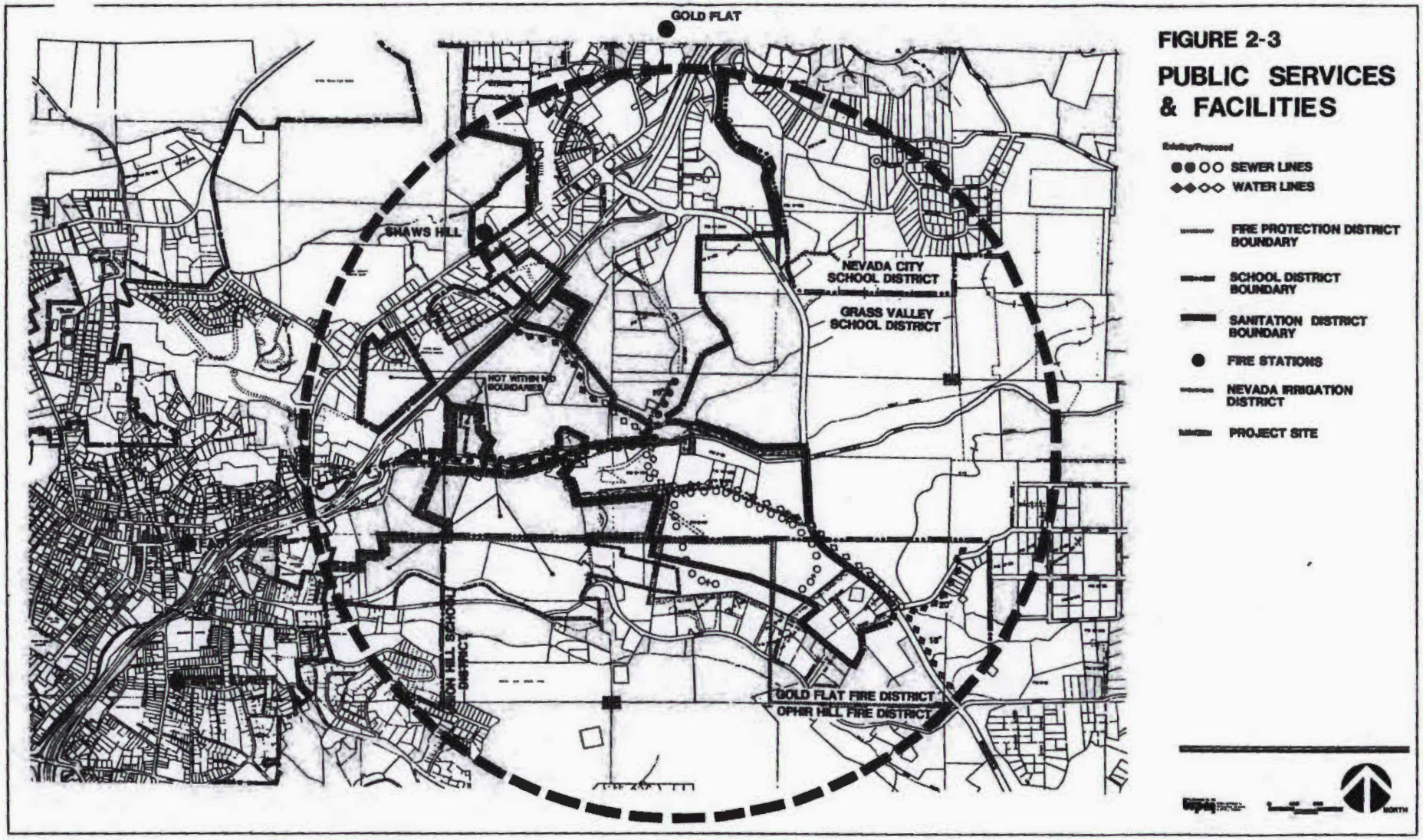
- The site would be served by the Loma Rica system which has adequate treatment capacity. However, the Cascade Canal, which supplies the Loma Rica plant with raw water, is near capacity and no funds are earmarked for improvements.

- It is district policy not to serve lots greater than two acres. The preliminary development plan shows a number of lots over 2 acres.

2. Sewer

- A small portion of the site (30.29 acres) lies outside the Nevada County Sanitation District No. 1, which is owned and operated by the City of Grass Valley (see Figure 2-3). The sewage system developed with the Glenbrook Sewer Assessment District and an EDA grant were turned over by NCSD No. 1 to the City for ownership, maintenance and operation. However, upon annexation to the City, the City would allow service to the entire site.

- Existing sewer collector lines would adequately serve the site. However, the downstream collection system


GOLD FLAT
SHAWS HILL
NEVADA CITY SCHOOL DISTRICT
GRASS VALLEY SCHOOL DISTRICT
NOT WITHIN ND BOUNDARIES
UNION HILL SCHOOL DISTRICT
GOLD FLAT FIRE DISTRICT
OPHIR HILL FIRE DISTRICT
FIGURE 2-3
PUBLIC SERVICES & FACILITIES
SEWER LINES
WATER LINES
FIRE PROTECTION DISTRICT BOUNDARY
SCHOOL DISTRICT BOUNDARY
SANITATION DISTRICT BOUNDARY
FIRE STATIONS
NEVADA IRRIGATION DISTRICT
PROJECT SITE
NORTH

to the treatment plant has potential capacity problems unless the City's inflow/infiltration correction program is completed.

- Sewer treatment plant capacity is currently available. However, cumulative development in the City and Glenbrook district would exceed sewer treatment plant capacity. City policy is "first come, first served." Plant capacity could be slightly increased if current improvement programs are implemented/completed.

- Sewer lines will have to be carefully laid out in the southern 30 acres of the site (that drain toward South Fork Wolf Creek) in order to maintain a gravity flow system.

3. Drainage

- Most of the site drains into Wolf Creek with the exception of the southern 30 acres which drain into South Fork Wolf Creek.

- A 100 year flood of Wolf Creek would inundate Idaho-Maryland Road from Sutton Way Extension to the existing City limits and then cause varying degrees of flooding as it passes through the City (see Figure 2-1). The most critical area is east of Mill Street near Rhode Island Street. Property adjacent to the westerly end of Mill Street currently flood during heavy winter storms.

- Conveying other than natural runoff (i.e. diverting urban runoff) to South Fork Wolf Creek is not acceptable to the City Engineer.

4. Fire Protection

- Upon annexation, fire protection services would be provided by the City. The nearest stations are Shaws Hill (2.0 miles away) and East Main (2.3 miles away) (as measured from the Brunswick Road entrance). These distances exceed the desireable standard for response distance to industrial areas (1.5 miles). (See Figure 2.3.) Shaws Hill is a temporary station which could easily be relocated.

- Proposed road improvements (the north-south link between Idaho-Maryland and East Bennett Roads, and extension of Whispering Pines Lane to the north-south connector) would improve response distance to 1.4 miles.

- Project and other potential development in the site vicinity (according to the 1982 General Plan) will necessitate a fire station in the vicinity of the Sutton Way Extension near Idaho-Maryland Road.

- The project site lies within a Wildland Fire Area as designated by the California Department of Forestry (CDF). If annexed, the CDF cannot respond to wildland fires unless a mutual aid agreement with the City is established.

5. Police Protection

- Project buildout would probably require the addition of one patrol officer to the City's Police Department staff. No problems are expected in funding the additional manpower unit.

6. Other Public Services

- There is available disposal capacity at the McCourtney Road Landfill for 7-10 years. Alternative locations are being studied by Nevada County.

D. CULTURAL RESOURCES

- There are two areas of historic significance on the site (see Figure 2-1). Special mitigations are recommended to ensure their preservation.*

E. VISUAL IDENTITY

- The Whispering Pines site provides an opportunity for companies to locate in a planned Corporate Community with outstanding scenic value.

- The "whispering pines" theme can be enhanced by preserving selected trees and tree groves already existing, and by planting new trees as recommended in the Specific Plan.

- Since the site can be seen from many surrounding vantage points, enhancement of the "whispering pines theme" will add to Grass Valley's image as a desirable place to work and live.

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* A complete archaeological survey (including archival and field research) was conducted for the site in May 1983 by the Archeological Study Center at California State University, Sacramento. A copy of this report is available from the City Planning Department. Recommended mitigations are disclosed in Chapter 6, Section 6.5 L. of this document.

F. FISCAL CONSIDERATIONS

- It is estimated that City revenues added by project development would exceed costs.* The revenue/cost ratio is 1.2 to 1.

- Cumulative development in the project vicinity (including the Whispering Pines Corporate Community) will require a variety of roadway improvements. A funding mechanism needs to be developed to finance these improvements.

- Cumulative development will also result in the need for a new fire station in the project vicinity and additional police manpower. Funding measures will need to be established, particularly for the fire station.

2.3 APPLICABLE GENERAL PLAN POLICIES

The General Plan establishes the overall intent for development and conservation of this future part of the City. The Specific Plan must follow through on this intent to be consistent with the General Plan, which is required by State law.

The intent of the General Plan is as follows:

A. BALANCED COMMUNITY CONCEPT

The basic intent of the General Plan is to achieve a well balanced Grass Valley community as the City grows. In recent years the community has added far more housing units than jobs and unless the trend is changed to a "balanced" community concept (with help from this project), Grass Valley will continue growing toward a predominately residential "bedroom" community.

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* See Chapter 6, Section 6.5 N. for revenue/cost breakdown and tax sharing.

The General Plan contains policy statements and provides measures to achieve a well balanced economic and population growth. Section 6.6 of Chapter 6 - Impact and Mitigations, contains analyses of how this proposed project affects balanced community growth. The most applicable policies of the General Plan are summarized below. As indicated previously, the proposed Specific Plan must be designed to carry out the intent of these policies.

B. COMMUNITY GROWTH AND DEVELOPMENT

- *Policy 1 (p. 14):*
  Encourage new development in the Grass Valley Planning Area in a planned and orderly way to:

  (a) Create balanced community development overall and within each major quadrant of the community.

- *Policy 8 (p. 15):*
  Annex, wherever feasible, contiguous unincorporated areas to the City of Grass Valley which are proposed for development and require municipal services.

- *Policy 9 (p. 15):*
  Coordinate municipal planning activities, phasing of public facilities and services and proposed annexations with Nevada County and appropriate service agencies.

- *Action B (p. 15):*
  Revise the existing City zoning ordinance to:

(1) *Provide a ... Specific Plan (SP) zoning district which will permit the City to prepare or review plans for significant parcels prior to a City commitment on rezoning or prezoning.*

- *Action C (p. 16):*
  Subject proposals which may have a significant impact on the community to environmental assessment.

B. ECONOMIC AND EMPLOYMENT DEVELOPMENT

- *Policy 1: Industrial (p. 23):*
  Promote the planning, zoning and development of planned employment centers (mixed industrial, commercial and residential) in appropriate locations in each major quadrant of the Grass Valley Community. Such planned employment centers shall be characterized by good vehicular access; high aesthetic standards for building design, landscaping and storage areas; employment-intensive uses; and minimum impact on nearby uses.

- *Action A: Industrial (p. 24):*
  The City will require the preparation of planned community or specific plans for those areas designated as planned employment centers. When such sites are proposed for annexation, prezoning will be subject to the approval of such plans.

- *Action B: Industrial (p. 24):*
  The City will add minimum performance standards to the zoning ordinance to:

- *Establish environmental standards for industry.*

- *Protect industry from the encroachment of commercial and residential development which may conflict with industrial operation and expansion.*

- *Protect industries within the district from the effects of other incompatible industries.*

- *Reduce to a minimum the impact of development within the industrial district on surrounding non-industrial land uses.*

- *Lessen traffic congestion.*

- *Promote sound fiscal and economic conditions for the community.*

- *Land Use Strategy: Industrial (p. 27):*
  The General Plan map shows two industrial use categories to serve the purposes of the economic and employment development policies (see Figure 2-4). These are a standard "Manufacturing-Industrial" category and a "Planned Employment Center" category.

  (1) *Manufacturing-Industrial*
  These are generally mixed use industrial districts sometimes accompanied by established industrial and service commercial uses. These districts have underutilized industrial potential because of availability of circulation and public service facilities and nature of land ownership and character of the site. A wide range of indus-

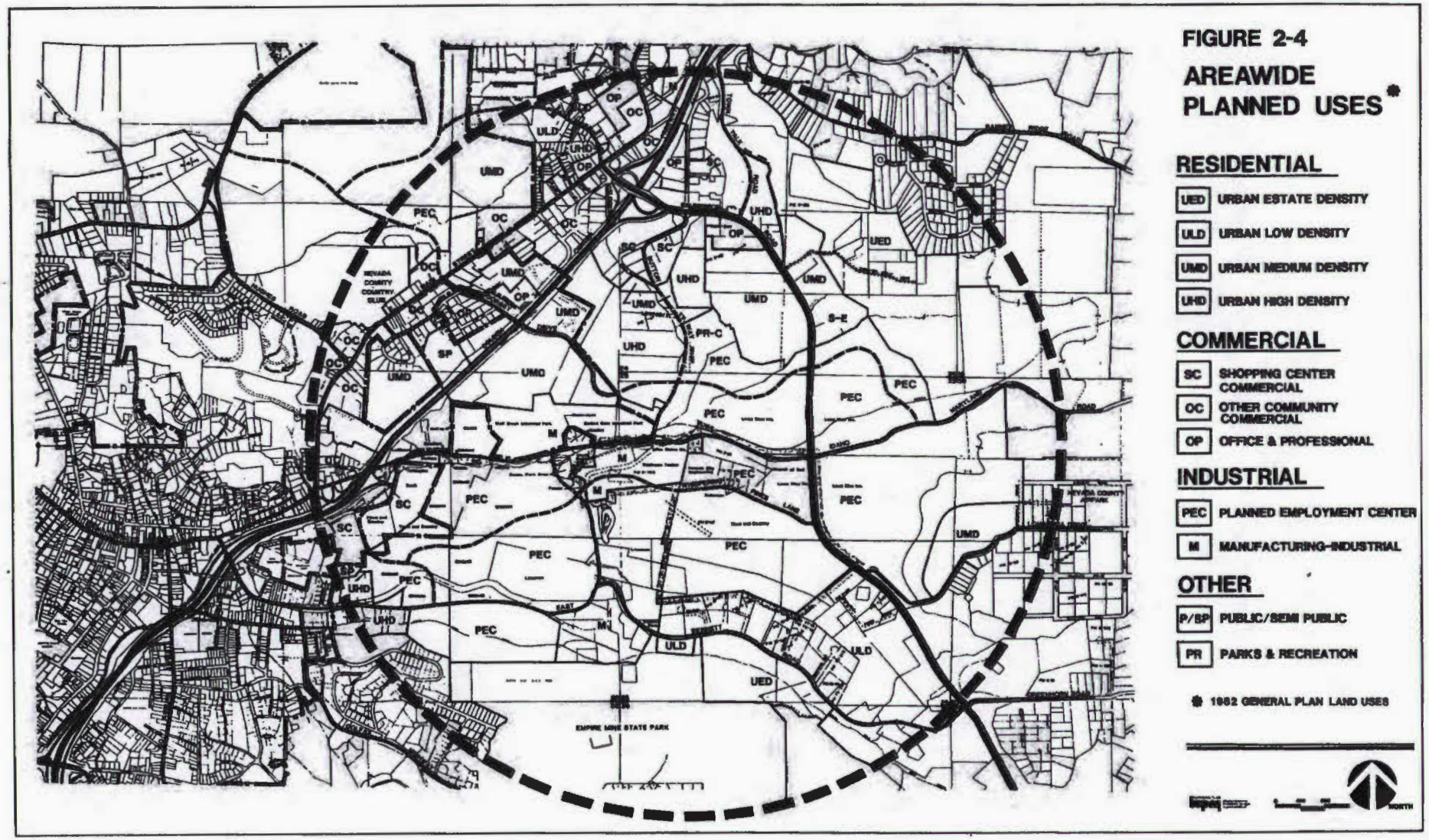


FIGURE 2-4
AREAWIDE
PLANNED USES*
RESIDENTIAL
UED URBAN ESTATE DENSITY
ULD URBAN LOW DENSITY
UMD URBAN MEDIUM DENSITY
UHD URBAN HIGH DENSITY
COMMERCIAL
SC SHOPPING CENTER COMMERCIAL
OC OTHER COMMUNITY COMMERCIAL
OP OFFICE & PROFESSIONAL
INDUSTRIAL
PEC PLANNED EMPLOYMENT CENTER
M MANUFACTURING-INDUSTRIAL
OTHER
P/SP PUBLIC/SEMI PUBLIC
PR PARKS & RECREATION
* 1982 GENERAL PLAN LAND USES
NORTH
EMPIRE MINE STATE PARK

trial uses would be permitted, subject to development standards preventing deliterious uses, and ensuring compatibility with the surrounding community. Compatible industrial uses should be clustered in specialized centers, e.g., automotive services, warehousing-distribution, wholesale-retail outlet, light manufacturing, etc.

(2) *Planned Employment Center*

Areas on the General Plan map designated as planned employment centers have a high potential for multiple land uses which can provide for the employment needs of the Greater Grass Valley community, as well as those of western Nevada County. Planned employment centers should be more than the traditional industrial park. They should be as self-sufficient as possible, seeking to provide basic employee requirements within their boundaries. They should be carefully designed to accommodate a wide range of commercial and industrial needs, and be fully integrated within the larger community. Planned employment centers will play a key role in the strategy to achieve a Balanced Community. Their design should not only preserve but enhance the natural environment.

To be a successful planned employment center, from the community's standpoint, they should reflect the following characteristics:

- *Comprehensively planned prior to prezoning and annexation;*

- *Mitigation of on-site and off-site impacts to the satisfaction of the City;*

- *Serve as a major element in the community's strategy to become a Balanced Community;*

- *Designed to achieve maximum efficiency for occupant industries;*

- *Joint action and investment by public agencies, as well as the developer;*

- *Pleasant, convenient and enjoyable work conditions for employees, including opportunities for short home-to-work journeys;*

- *Designed, engineered and managed to insure protection and enhancement of the physical environment;*

- *Have an enduring, as well as attractive appearance, particularly when viewed from nearby areas; and*

- *Ensure an ongoing positive return to the community in the form of taxes, wages and local sales.*

2.4 SUMMARY OF OPPORTUNITIES AND CONSTRAINTS FOR DEVELOPMENT

The foregoing paragraphs have outlined planning factors that will affect development in the Whispering Pines Corporate Community.

Several important factors are summarized below under two categories - Development Opportunities and Development Constraints.

DEVELOPMENT OPPORTUNITIES

- The General Plan designates 84 percent of the site as a Planned Employment Center and 16 percent as Manufacturing - Industrial. This reflects the need to develop new job opportunities in the Grass Valley area to offset the current jobs/housing imbalance.

- The site is accessed by two major roadways - Idaho-Maryland and Brunswick Road.

- The site provides an opportunity for companies to locate in a planned industrial - business center with outstanding scenic value.

- Careful project design and landscaping will help to preserve Grass Valley's image as a desirable place to work and live.

- City revenues added by the project would exceed estimated costs.

DEVELOPMENT CONSTRAINTS

- The site has some steep slopes with moderate erosion potential. The western portion of the site has been severely disturbed by previous grading and mining activities.

- Site runoff could contribute to downstream flooding problems.

- Project development will contribute to the need for improvements to the sanitary collection and water supply systems, expansion of sewer treatment capacity, and provision of adequate fire protection service.

- Site development will disrupt and/or eliminate native vegetation and wildlife habitat.

This Chapter has identified opportunities and constraints for development of the Whispering Pines project site. The next chapter describes and illustrates the land use and development concept. The Plan reflects all factors identified on the previous pages and incorporates many mitigations needed to avoid adverse effects.

Chapter 3

DEVELOPMENT CONCEPTS

Chapter 3

DEVELOPMENT CONCEPT

3.1 ELEMENTS OF THE SPECIFIC PLAN

This Chapter describes development concepts and provides the planning philosophy for Specific Plan Number 1. It contains the following subjects:

3.2 Basic Land Use Provisions of the General Plan.

3.3 Specific Plan Development Objectives.

3.4 Description of the Comprehensive Plan Map (includes Land Use, Circulation, Open Space and Conservation).

3.5 Areawide Relationships.

This Chapter will be adopted as part of the Specific Plan.

3.2 BASIC LAND USE PROVISIONS OF THE GENERAL PLAN

The General Plan intends that 130 acres (84%) of the site should develop as a planned employment center while 24 acres (16%) are designated for manufacturing - industrial development.

Each land use designation allows a different set of permitted and conditional land uses. Ultimately, the application of these two different land uses may result in differing "built" environments. The conceptual differences are noted below.

A. PLANNED EMPLOYMENT CENTER

The intent and purpose of this mixed land use category is to promote business and research parks, large individual corporate establishments, professional and administrative office complexes, and selected commercial activities as the predominant land use. Higher density residential uses

would satisfy housing needs of employees and businesses within the planned employment center. Such uses are developed under the guidance of a master plan and a review process to find that the use is compatible with neighboring uses and the general area and is consistent with the master plan. Higher density employment-generating uses are encouraged to locate in planned employment centers.

Conditions and restrictions are needed on development in planned employment centers to specify limitations on site coverage, delineate landscaping requirements and outline performance standards and similar devices intended to promote attractive and high quality design and to preserve the natural environment.

B. MANUFACTURING - INDUSTRIAL

This land use category provides for a wider possible range of light and medium industrial type activity, including manufacturing, assembling, fabrication, wholesaling and office support uses. In this area the applicable development and design standards are less demanding than those of a planned employment center, but safeguards are provided to ensure a well-functioning environment and compatibility with the surrounding area. The required land area per parcel is smaller than that of the planned employment center so as to accommodate smaller firms.

3.3 SPECIFIC PLAN DEVELOPMENT OBJECTIVES

It is necessary for the Specific Plan to translate the General Plan's policies and land uses into an appropriate set of development objectives. The Specific Plan has two General Plan land use

designations for the site: planned employment center and manufacturing-industrial. Table 3.1 below provides the overall development objectives by which to plan for and achieve the intended "built" environment for these two land uses.

Table 3-1

DEVELOPMENT OBJECTIVES FOR
WHISPERING PINES CORPORATE COMMUNITY

	Planned Employment Center	Manufacturing Industrial
MARKET DEMAND	Provide for firms seeking a campus atmosphere, attractive and high quality design, predictable and protected environment and safe guarded land values.	Provide for firms seeking less demanding standards.
LAND USE	Provide for reasonable flexibility in industrial, commercial and residential use to respond to changing future conditions but ensure compatible groupings of land uses.	Selected industrial uses permitted. Other uses conditionally permitted.
LOT SIZE	Require planned development plans with lots of 1½ to 10 acres or more.	Allow industrial subdivision on lots of 1 acre or more.
DESIGN AND AMENITIES	Provide for high quality design and amenities by individual parcel developers.	Good design encouraged but not mandatory. Screening from public view required.
MAINTENANCE	Form a maintenance entity to provide for maintenance standards and unified maintenance of Buffer Area and possible coordinated maintenance of other internal areas.	Require participation in maintenance entity for unified maintenance of Buffer Area.
SPECIFIC PLAN IMPLEMENTATION	Review for consistency by City codes; covenants and restrictions encouraged.	Review for consistency by City.
	Design review along the Whispering Pines Lane corridor by Design Review Committee.	Design review along the Whispering Pines Lane corridor by Design Review Committee.

3.4 DESCRIPTION OF THE COMPREHENSIVE PLAN MAP

A. DEVELOPMENT SUBAREAS

Figure 3.1 - Comprehensive Plan Map establishes three major subareas within the Specific Plan area (SP-1A, SP-1B and SP-1C). As a result of differing land use characteristics, each subarea has unique development conditions and needs. Thus each subarea accommodates a different set of land use types. Subarea SP-1A provides for higher density employee-generating activities including office, research, development and assembly. These uses require well designed and landscaped sites with activity occurring within enclosed facilities. This subarea can also accommodate restricted light industrial facilities serving western Nevada County. Subarea SP-1B provides for general industrial and service uses oriented to the needs of the community. Subarea SP-1C will provide residential development for local employees working in the nearby industrial facilities. The following paragraphs describe, in more detail, general land use characteristics for each subarea. More specific information on permitted and conditionally permitted land uses, as well as specific standards and guidelines for each subarea, is outlined in Chapter 4.

1. Subarea SP-1A: Corporate District

This subarea totals about 125 acres. Six different owners are included in the subarea (see Figure 3-1):

Owner	Acreage
Town and Country	91.2
Loma Rica Inc.	15.3
Nevada City Engineering	7.0
Patterson	5.2
Robinson Timber Trust*	5.0
Church of God*	1.5
Total	125.2

* Only a portion of the owner's parcel is contained in Subarea 1A.

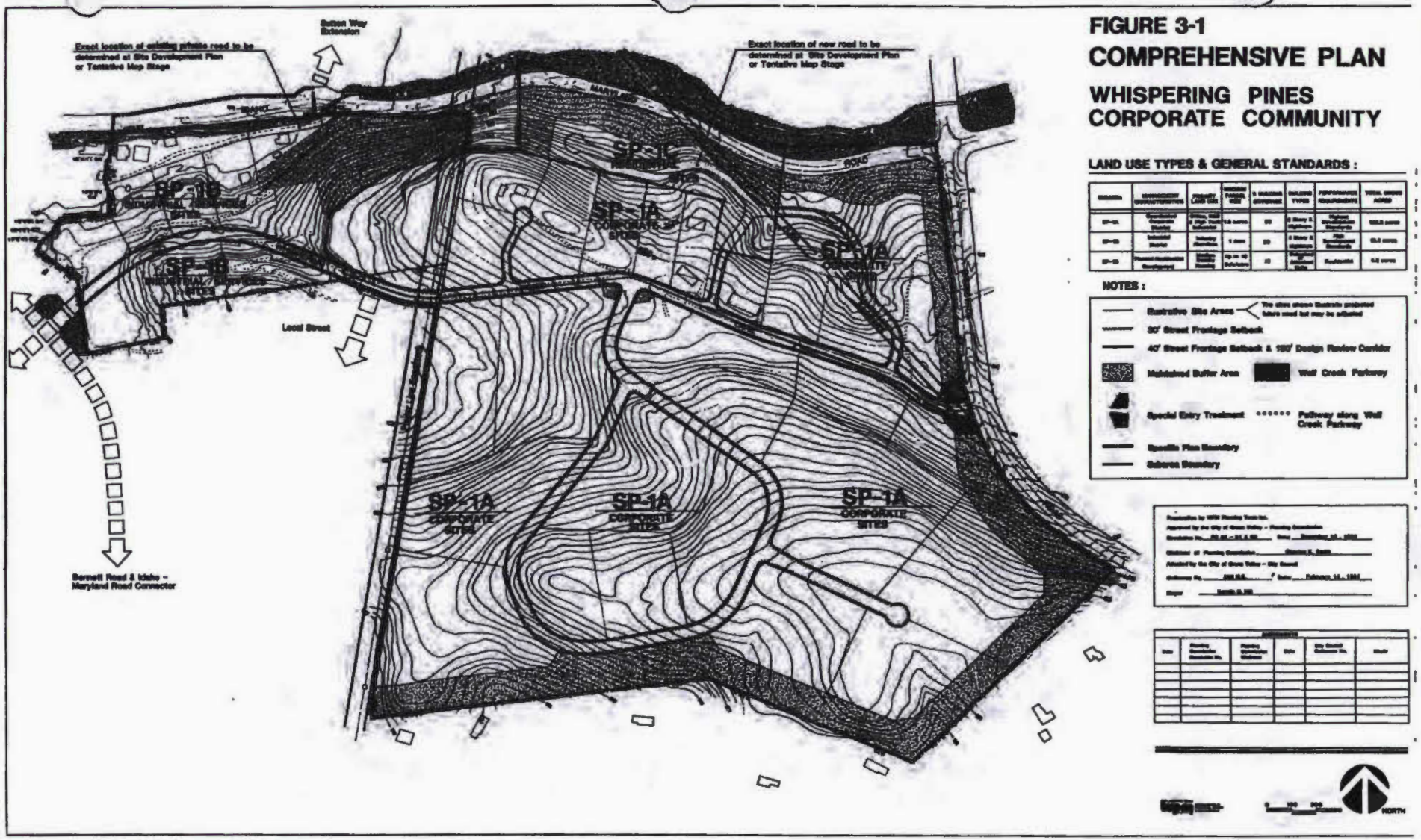


FIGURE 3-1
COMPREHENSIVE PLAN
WHISPERING PINES CORPORATE COMMUNITY

LAND USE TYPES & GENERAL STANDARDS :

NOTES :

- Illustrative Site Areas — The sites shown illustrate projected future need but may be adjusted
- 30' Street Frontage Setback
- 40' Street Frontage Setback & 100' Design Review Corridor
- Undisturbed Buffer Area
- Wolf Creek Parkway
- Special Entry Treatment
- Pathway along Wolf Creek Parkway
- Specific Plan Boundary
- Adjacent Boundary

NORTH

The City's current General Plan designates Subarea SP-1A as planned employment center. The Specific Plan extends this concept by designating the subarea for primarily high quality "corporate park" type developments. Although many possible land use types are allowed on any of the six land ownerships within the subarea, a "campus-type atmosphere" with a "whispering pines" theme will be achieved throughout the subarea if the standards and guidelines provided in Chapter 4 are followed.

The Town and Country parcel (about 73% of the subarea) has the best opportunity to develop as a large scale, corporate park because the owners will retain management control of the parcel as it develops. This type of management, together with consistent site development standards through Codes, Covenants and Restrictions (CC & R's), will insure the preservation and enhancement of a campus-type atmosphere throughout the parcel.

North of Whispering Pines Lane are three separately owned parcels and portions of two ownerships. Multiple land ownership and smaller parcel size in this area may make it more difficult to achieve an environment which reflects the "whispering pines" theme and campus-type appearance. Cooperation of the current and subsequent land owners in this part of the subarea will be essential in implementing the "planned employment center" intent of the General Plan and the resulting "development conditions" of the Specific Plan. However, if property owners coordinate among themselves and direct their efforts toward achieving high quality development, land values and returns to the individual property owner will be considerably higher.

2. Subarea SP-1B: Industrial/Services District

This subarea consists of the larger portion of the Robinson Timber Trust parcel 18.3 acres out of 23 acres) and the entire Tom's Sierra Company parcel (1.4 acres).

The General Plan designates these two parcels as a manufacturing-industrial area. The intent of the Specific Plan for this subarea is to allow a broad range of community-serving industrial and service-type uses, to achieve compatibility with the surrounding area, and to assure an acceptable level of environmental protection for employees and adjacent neighbors.

3. Subarea SP-1C: Residential-Medium Density

This area consists of the remaining undeveloped portion of the Church of God ownership (9.4 acres). Because of steep slopes and limited accessibility, this subarea was not considered suitable for industrial development. However, the site provides a good opportunity for residential use due to its pleasing environment with views overlooking the meadows and hills to the north. SP-1C might accommodate up to 30 townhouse units if carefully designed and engineered.

The General Plan includes the SP-1C area in a planned employment center. Such areas may provide for higher density housing, integrated with commercial and industrial development and open space. Such housing is meant to accommodate employees working in nearby establishments and provide them with a pleasant environment and a short home-to-work journey. The Specific Plan for Subarea SP-1C incorporates this concept through the residential designation.

B. CIRCULATION ELEMENTS

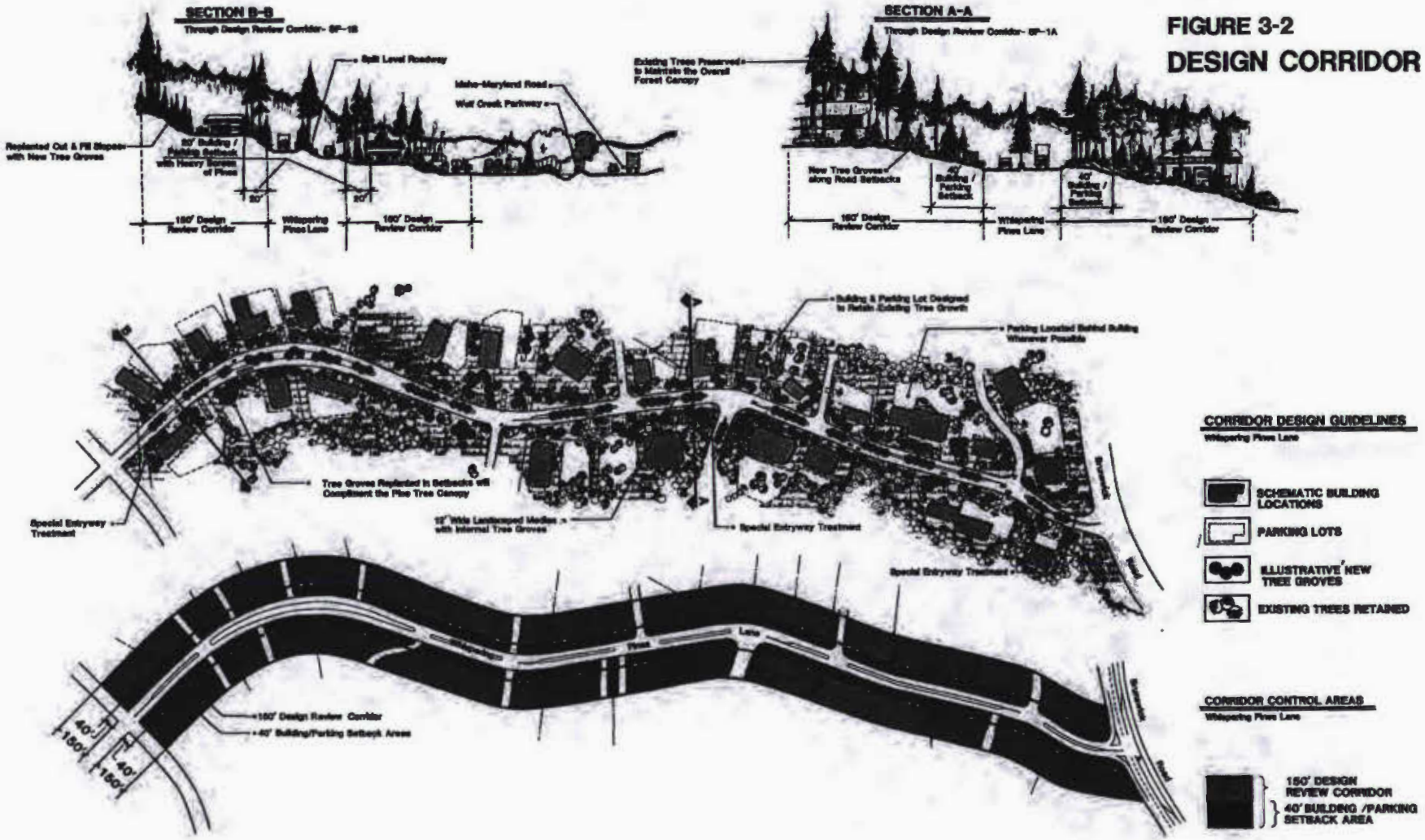
A basic internal circulation system is proposed in Figure 3-1 to provide site access and to promote the development of the area. Section 6.6 of the EIR provides a detailed traffic analysis and addresses off-site circulation and traffic conditions and needs. Chapter 4: Development Conditions provides necessary rights-of-way and number of lanes for roads through each parcel, roadway cross sections, and parking standards. The following paragraphs describe the proposed interior roadway system.

The most important interior roadway is Whispering Pines Lane which extends through the project area to connection with Brunswick Road and the proposed Idaho-Maryland Road - Bennett Street connector. The roadway would be constructed to parkway standards. Careful site planning, sensitive architecture, landscaping, and design review of uses along the route would promote the parkway concept.

Additional local service streets are extended from Whispering Pines Lane to provide access to the interior of individual parcels. They have been located to provide for flexible patterns of parcelization within each ownership and for grade-of-roadway considerations. The precise alignments will need to be determined at the site development plan stage.

The full length of Whispering Pines Lane should be developed to its ultimate standard at the earliest possible time to promote a high quality parkway image and to provide both easterly and westerly access to all parcels along its length (see Figure 3-2). A parkway appearance along Whispering Pines Lane will make the single most important contribution

FIGURE 3-2
DESIGN CORRIDOR



to the economic success of the project area. Two elements for achieving the parkway concept are included elsewhere in this report:

- Detailed site planning, architecture and landscaping standards applicable to Whispering Pines Lane corridor are presented in Chapter 4.

- Design review within a "Whispering Pines Lane Design Review Corridor" is proposed in Appendix C.

Whispering Pines Lane will be a public street, improved by developers within the Specific Plan area and dedicated to the City. The other interior streets may be public or private, to be determined at the site development plan stage.

C. DESIGN ELEMENTS

This section summarizes the major proposals of the Specific Plan for creating and maintaining an overall image for the Whispering Pines Corporate Community. The following chapter contains more specific design requirements and guidelines to carry out the design concepts.

Firms (particularly hi-tech firms) considering this location will be concerned about the projected image for the entire Whispering Pines Corporate Community as well as their individual sites. For this reason, it is extremely important that developers of the Whispering Pines Corporate Community and the City work together to build an attractive, clean, campus-type atmosphere with a "whispering pines" theme. The resulting high quality corporate park image is critical to the success of this project.

Each development within the Specific Plan area will contribute to the overall image. The following area-wide design elements will unify and enhance this image:

- Whispering pines theme
- Campus-like atmosphere
- Entrance gateway treatment
- Buffer areas
- Wolf Creek Parkway

1. Whispering Pines Theme

The primary scenic resource on the site is the dense, uniform Ponderosa pine tree cover. Breezes through these trees produce the whispering pines effect. This theme will be promoted throughout the site (see Chapter 4 - Development Guidelines). Visual prominence of the pine covered skyline will be retained, even at full development (see Figure 3-3).

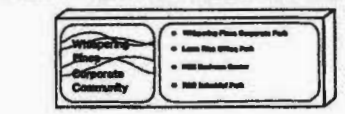
2. Campus-Type Atmosphere

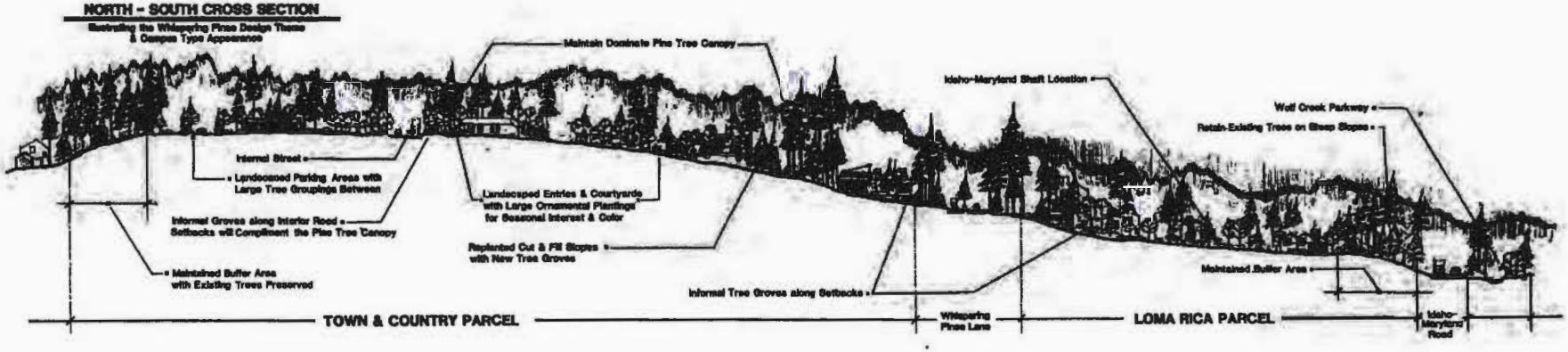
The combination of low building coverage requirements and site planning guidelines will help create a campus-type atmosphere for the Whispering Pines Corporate Community. The intent is to create a business complex that compliments Grass Valley's small town character. Views will be open and the forest setting maintained. (See Chapter 4 for specific development conditions.)

3. Entrance Gateway Treatment

Important visual components of the proposed Corporate Community are the east and west entries to Whispering

FIGURE 3-3
DESIGN THEME





Pines Lane at the intersections with Brunswick Road, and the new connector between Idaho-Maryland Road and Bennett Street to the west of the Specific Plan area. Figure 3-3 illustrates how these entrances will be designed to identify the Whispering Pines Corporate Community.

4. Maintained Buffer Area

This area is a permanently reserved vegetated buffer around the perimeter of the Specific Plan area (see Figure 3-1). The intent of the Buffer Area is to:

a. Direct development away from very steep slopes which may be potentially unstable.

b. Preserve the natural setting of the site.

c. Preserve biological resources.

d. Protect development from road noise.

e. Provide a noise and visual barrier for neighboring residential development.

f. To control access.

5. Wolf Creek Parkway Concept

The section of Wolf Creek within the Specific Plan boundary has been set aside as a parkway for public use (see Figure 3-1). Property owners would voluntarily dedicate an open space easement as their contribution to the parkway concept. Sketch 4-6 (Chapter 4) shows a cross-section of the Parkway to illustrate how existing riparian

vegetation along the creek should be retained and enhanced with additional plantings, and how a pathway could be located along the creek edge.

The relatively undeveloped status of properties fronting on Wolf Creek westerly to the freeway and northerly and easterly of the Specific Plan area provides a rare opportunity to reserve a 1.5 mile parkway along the creek.

The parkway would provide scenic as well as functional amenities (a jogging/walking pathway). Acceptance of the concept by the City and cooperation from the owners would likely result in establishment of the parkway within the next five years. Corporations seeking sites in the area, including the Whispering Pines Corporate Community would find the Wolf Creek Parkway a desirable amenity and another advantage in selecting a site in this location.

This Specific Plan would initiate the process for creating a Wolf Creek Parkway. Three property owners have Wolf Creek frontage within the Specific Plan area -- Robinson Timber, Church of God and Loma Rica Inc. The Robinson parcel would add 970 feet to both sides of the Parkway, while the Church of God and Loma Rica Inc. parcels would add the undevelopable segments of their properties north of the Idaho-Maryland Road to the corridor.

3.5 AREAWIDE RELATIONSHIPS

The Whispering Pines Corporate Community will contribute to the evolving Civic Core for the Western Nevada County community which

has the potential to be the largest employment complex in the County, as it develops. This Civic Core will be composed of several subareas as described below:

Subarea	Significance
Glenbrook Basin Commercial District	- Two-thirds of a mile from Whispering Pines project. - Largest employment aggregation in the County at present. - Fast developing regional retail commercial office and recreational district for Western Nevada County.
Nevada County Airport/ Industrial District	- One-half mile east of Whispering Pines Project. - Western Nevada County's major airport. - Adjacent industrial district is the largest concentration of industrial and service firms in Western Nevada County.
Loma Rica Ranch Planned Employment Center	- Adjacent to Whispering Pines project. - Largest vacant developable parcel in the area (about 475 acres) available for employment uses. - High potential for development into a major employment center.
Idaho-Maryland - East Bennett Corridor Planned Employment Center	- A corridor between Idaho-Maryland Road and East Bennett Street west of Whispering Pines project to the freeway. - Comprises about 250 acres in three large ownerships. - Potential for it to be the largest single employment center in the Grass Valley/Nevada City area.
Whispering Pines Corporate Community	- Potential for 2,000 employees - Will be the County's first Planned Employment center.

Subarea	Significance
Empire Mine State Park	- A few hundred feet south of the Whispering Pines Project. - Famous mine is a historical attraction located on several hundred wooded acres.

Other possible projects which may become part of the Civic Core include:

Litton Property Planned Employment Center	- Comprises 255 acres in a single ownership. Planned complex of residential, commercial, office and corporate uses.

Chapter 4

CONDITIONS FOR DEVELOPMENT

Chapter 4

CONDITIONS FOR DEVELOPMENT

This chapter provides the Conditions for Development for SP-1: Whispering Pines Corporate Community. These conditions and standards shall be used in evaluating individual project applications. This chapter is divided into three main categories:

4.1 Purpose

4.2 Development Standards Applicable To All Subareas

- A. Required Specific Plan Components
- B. Roadway, Parking, Transit
- C. Public Infrastructure
- D. Fire Protection
- E. Environmental Factors
- F. Aviation
- G. Administration Requirements
- H. Definitions

4.3 Subarea Development Standards Applicable To Each Subarea

- A. Permitted Use
- B. Conditional Uses
- C. Street R.O.W. Standards
- D. Minimum Parcel Size
- E. Setback Requirements
- F. Landscape Reauirements
- G. Signs
- H. Special Considerations

A Development Standards Summary table which summarizes certain development standards that apply on a subarea basis is contained in Figure 3-1: Comprehensive Plan Map.

4.1 PURPOSE

The intent of these standards is to maintain high quality design, to allow for a balance of uses and to make efficient use of the land within Specific Plan No. 1. Careful preservation of natural tree cover, design review of development along Whispering Pines Lane and good building design throughout will improve market potential and maintain high property values.

4.2 DEVELOPMENT STANDARDS APPLICABLE TO ALL SUBAREAS

The purpose of this section is to establish basic provisions which regulate development and apply to all projects throughout the SP-1 area.

A. REQUIRED SPECIFIC PLAN COMPONENTS

A.1 Design Review Corridor

a. A continuous strip one hundred and fifty feet wide abutting and running parallel to each side of the Whispering Pines right-of-way.

b. Refer to Sections 4.4 and 4.5 for the special provisions for landscaping and design review that apply.

c. Refer to Figure 3-2 for illustrative use of the Design Review Corridor.

A.2 Maintained Buffer Area

a. A continuous strip at least one hundred feet wide as indicated on Figure 3-1.

b. The Buffer Area shall consist of native trees and shrubs, supplemented with additional plantings, where necessary. Applicants are required to include a plan and program, prepared by a qualified forest ecologist, to preserve and enhance the Buffer Area and maintain a consistent visual appearance. Such plan and program shall be included in the applicants submittal and contain an analysis of existing conditions, a plantation plan for those portions requiring reforestation/afforestation and management recommendations for ongoing maintenance.

c. The Buffer Area shall be established by dedication of a buffer easement to a Property Owners Association or a Landscape Maintenance District at the time of project approval.

d. The Buffer Area will be maintained and kept clear of debris, underbrush, or other fire hazards.

e. Maintenance will be provided by a Landscape Maintenance District or Property Owners Association.

f. At the discretion of the developer, a fence may be installed along the outer edge of the Buffer. Gates should be provided for fire equipment access at suitable intervals.

A.3 Wolf Creek Parkway

a. All Wolf Creek areas shown on the Comprehensive Plan Map within the SP-1 area and designated as Wolf Creek Parkway shall be permanently retained as natural open space with appropriate riparian protection. This is intended to preserve the riparian associated habitats as a valuable biological resource.

b. Those portions of any parcel shown as Wolf Creek Parkway shall be irrevocably dedicated to the Property Owners Association, a Landscape Maintenance District, or other legal entity so stipulated by the City. This shall be done prior to approval of Site Development Plan, Final Subdivision map or other permit authorizing land development on parcel adjoining the Wolf Creek Parkway.

A.4 Whispering Pines Theme

a. Site landscaping should preserve and enhance the overall wooded character of the site.

b. Ponderosa Pine or other native pines should be planted as the dominant landscape tree.

c. Other trees and shrubs should complement, but not dominate, the pine tree theme.

A.5 Existing Uses

a. The continued use of existing residential and industrial uses shall be permitted. The existing industrial uses may be expanded.

B. ROADWAY, PARKING, AND TRANSIT REQUIREMENTS

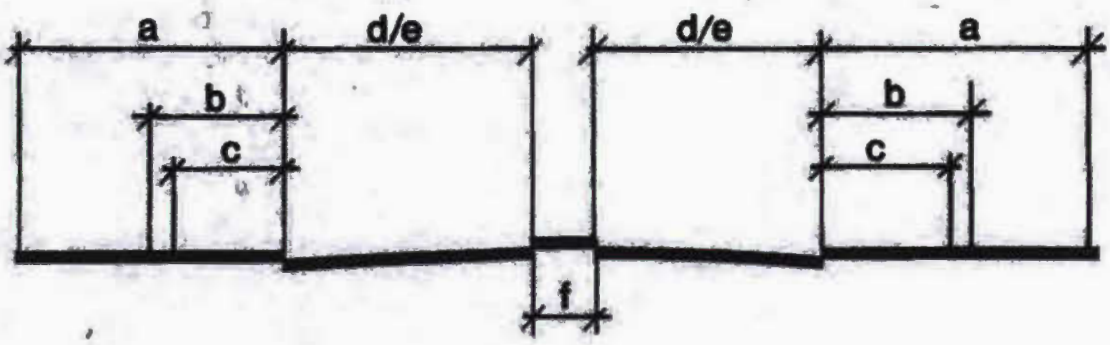
B.1 Access

a. All parcels hereafter created shall have direct access to a public or private street shown on Comprehensive Plan Map, or to a public street which is approved by a parcel map or subdivision map.

b. Public streets and roadways which lie wholly or substantially within a development or those which are to be dedicated to the City shall be constructed or brought into compliance with City Street Development Standards. Right-of-way standards applicable to project streets are included in Section B.2.

B.2 Project Roadway Standards

Whispering Pines Lane



a = 10' utility right-of-way where required

b = 5' sidewalk where required

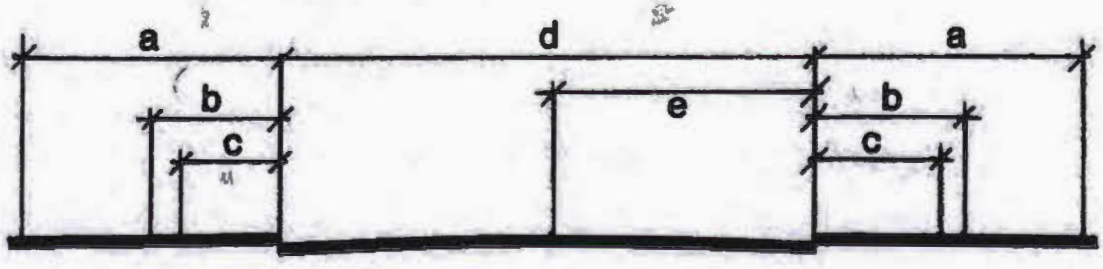
c = 4' minimum right-of-way

d = 24' minimum pavement width nonhillside- 14' travel lane and 10' emergency parking/ bike lane on both sides mid-block which become turn lanes at intersection approach

e = 16' minimum one directional pavement on hillsides where split roadway; no emergency parking lane but emergency parking turnout bays required periodically

f = 12' planted median mid-block which becomes turn lane at intersection approach

Other Interior Roads



a = 10' utility right-of-way where required

b = 5' sidewalk where required

c = 4' minimum right-of-way

d = 44' minimum pavement width nonhillside- 12' travel lane and 10' emergency parking/ bike lane on both sides mid-block which become turn lanes at intersection approach

e = 16' minimum one directional pavement on hillside where split roadway; no emergency parking lane but emergency turnout bays required periodically

B.3 Hillside Streets and Roadways

a. Standard street requirements including variation in the number of travel lanes, right-of-way width and pavement widths may be reduced in hillside areas. Proposals to reduce standard street requirements shall specify the following:

(1) Steepness of terrain;

(2) Depth of cut, amount of cut and fill required, height and appearance of required retaining walls;

(3) Ability to grade required cut and fill areas to give the appearance of a natural slope;

(4) Provision of adequate turnouts;

(5) Adequacy of site distance;

(6) Safety of driveway entrances;

(7) Maximum number of vehicles and service levels of the proposed street;

(8) Length of street and whether it is or can become a through street;

(9) Accessibility for emergency vehicles;

(10) Probable vehicle speeds.

b. Methods to reduce the amount of grading include the following:

(1) Varied right-of-way width to accommodate slopes for meandering streets and paths;

(2) Occasional steep street grades;

(3) Elimination of on-street emergency parking lanes when emergency turn-out bays are provided.

(4) Use of split level streets;

(5) Use of a variety of street design including cul-de-sacs, hammer heads and short loop streets.

B.4 Special Parking

a. The method of providing parking in hillside areas shall be identified in a Development Plan map. One covered and one uncovered parking space shall be the standard for any residential unit. Tandem parking may be necessary to comply with the requirement. Provisions shall be made for visitor parking.

b. The City may require more parking where topography, special traffic, building, grading or other circumstances warrant.

c. Parking for nonresidential uses shall be required in accordance with Article - 14 of the Grass Valley Zoning Ordinance.

d. The intermittent widening of streets for emergency parking and turn-arounds at convenient places shall be provided.

B.5 Public Transit

The inclusion of, or the contribution to a transit system within the community shall be in accordance with established transportation plans. Bus shelters and appropriate landscaping shall be incorporated into a development's circulation plan when appropriate.

C. PUBLIC INFRASTRUCTURE REQUIREMENTS

C.1 Service Adequacy

a. All development shall be served by adequately sized and constructed centralized sewer, water and drainage systems.

b. A letter shall be submitted to the City certifying the availability of immediate service from each of the utilities necessary to the development prior to final project approval.

C.2 Utility Plans

a. A Development Plan shall identify utility system needs for the area, the method of connection to existing systems, the need for oversizing lines for future expansion and the phasing of line construction.

b. Plans for utility systems will include analysis of alternatives for least operation and maintenance cost to the City.

c. All utility lines shall be placed underground and all surface disruptions shall be rehabilitated to the original or improved condition.

C.3 Water Service — The water service system utilized must have ready reserves in order to meet the demand for treated water and the fireflow requirements of the development without reducing the level of service to existing customers.

C.4 Sewer Service — Sewer connection will be based on available capacity and, if necessary, a system of allocation based on City developed criteria.

C.5 Drainage — No drainage shall be transferred from one watershed to another.

D. FIRE PROTECTION REQUIREMENTS

D.1 Fire Protection Plan

a. A fire protection plan shall be prepared by applicants and approved by the Fire Chief for proposed subdivisions within the Specific Plan area. The Plan should:

(1) Demonstrate compliance with Grass Valley fire safety ordinances;

(2) Ensure necessary water flows for fire protection;

(3) Ensure an acceptable response time to the site;

(4) Identify and provide necessary fire/fuel breaks;

(5) Delineate minimum building spacing requirements; and

(6) Conform to building construction and occupancy standards.

D.2 Fire and Fuel

a. All native brush shall be cleared for at least 30 feet around the perimeter of all structures and thinned out or replaced by landscaping for an additional 70 feet beyond the cleared area to reduce fuel volumes.

b. In the Buffer Area and other undeveloped areas, shaded fuelbreaks shall be created by clearing out underbrush, fallen timbers, and trimming lower branches of trees to reduce crown fires.

c. A community firebreak system shall be created throughout the Specific Plan area and coordinated with overall fuelbreak plans for a wider area.

d. All easements for firebreaks should provide access for firefighting personnel and equipment (including motorized). Such easements should be dedicated for this specific purpose by being recorded.

e. The property owners or designated association shall be responsible for regularly maintaining fire or fuel breaks in a safe condition.

f. The Fire Chief will periodically inspect the properties and advise property owners or their designated association on proper brush clearing and tree trimming to minimize fire hazards.

g. If vegetation or debris is allowed to become a fire hazard near public roads, the Fire Chief shall use the City's powers to abate the fire hazard and to bill the property owner for the cost.

D.3 Building Spacing

Buildings should be spaced at least 30 feet apart to minimize the exposure risk from an adjacent structure fire. This spacing may be altered where buildings have features compensating for exposure to radiated heat and the induction of sparks such as fire-resistive materials, smooth exterior walls and overhangs.

D.4 Building Construction and Occupancy

a. Construction should be to the standards prescribed by comprehensive Building Codes and Fire Prevention Codes for mountain areas.

b. Roofs and exteriors of buildings should be of fire-resistant materials.

c. Suitable fire-resistant construction should be required for all building projections (canopies and eaves) and for balconies, decks and unenclosed under floor areas.

d. Thermopane glass for large window surfaces facing exposure hazards should be used.

e. Automatic fire sprinkler systems in all buildings over 5,000 square feet should be installed unless waived by the Fire Chief.

E. ENVIRONMENTAL FACTORS

E.1 Purpose

It is the intent of these requirements to ensure a high quality working environment with available sites for industrial and business firms who require protection from the adverse affects of noise, odors, vibration, glare or high-intensity illumination, and other nuisances.

E.2 Noise

a. Noise environments within the Specific Plan boundaries shall be maintained at the following levels: 70dB CNEL for industrial areas (outdoor) 65 dB CNEL for residential areas (outdoor) and 45 dB CNEL for residential areas (indoor).

b. Activities which may emit continuous noise levels in excess of standards outlined in a. shall be required to mitigate noise levels to acceptable standards.

c. Activities located adjacent to existing residences shall demonstrate that noise levels will not adversely affect the adjacent neighborhood.

E.3 Air Pollution

a. Approval by the Nevada County Air Pollution Control District shall be required for any industrial use or operation which may generate air pollutants.

b. Any ash dust, fumes or other forms or air pollution shall not exceed Number 1 on the Ringleman chart, or equivalent capacity.

c. The use of any materials subject to becoming airborne shall only be permitted if it is demonstrated that no significant air pollution impacts will result.

d. Refuse burning shall be prohibited.

e. Any odors which interfere with the comfort of adjacent residents or workers shall be prohibited.

E.4 Light and Glare

a. No structural features or equipment shall cause glare upon adjacent properties.

b. All security lighting shall be screened from adjacent residents.

E.5 Hazardous Materials

a. Explosives and all flammable materials shall be stored in a manner approved by the Fire Chief.

b. The City should develop and adopt a hazardous materials management ordinance. Such ordinance would require any person, firm or corporation using hazardous materials (as defined by the ordinance) to obtain and keep current a Hazardous Materials Storage Permit. The ordinance should include the following:

(1) Definitions of hazardous and toxic materials.

(2) A list of hazardous or toxic materials commonly used in industrial and light industrial activities.

(3) Detailed containment standards.

(4) Site planning criteria for proper siting of hazardous materials storage or use areas.

(5) Criteria for disposal of hazardous materials.

(6) A requirement for submittal of a hazardous materials management plan by prospective users of hazardous materials. Such plan should include a hazardous materials inventory, facilities map and disposal plan, including transportation routes.

c. The City should designate an Environmental Health officer to administrate the hazardous materials management ordinance.

d. If the City does not adopt a hazardous materials management ordinance, they should establish a review process for proposed industrial uses under Nevada County's Hazardous Materials Storage Ordinance.

E.6 Contamination of Ground Water

a. No uses will be permitted without identification of solid and liquid wastes generated and method of disposal.

b. No uses will be permitted that require discharge of high quantities of toxic liquids into public sewers.

c. Discharge of any materials of such nature or temperature that can contaminate any water supply, interfere with bacterial process in sewage treatment, or otherwise cause emission of dangerous or offensive elements shall be prohibited.

F. AVIATION

F.1 Avigation Easement

Require an avigation or use restriction easement for those areas of SP-1 within the Nevada County Airport 20:1 Future Non Precision Approach Surface. Such approach surface is indicated on the Development Constraints map (see Figure 2-1).

F.2 Impact Mitigations

Require the easement to specify mitigations which ensure compatibility between the Airport and the proposed land use. Such mitigations could include:

(1) Prohibiting structures that would obstruct the Airport's airspace.

(2) Prohibiting lights and glare which would restrict pilot visibility.

(3) Prohibiting any smoke source which would restrict pilot visibility.

(4) Prohibiting electronic interference which would disrupt radio communication or navigational signals.

(5) Prohibiting any use which would attract birds.

(6) Require land uses with low employee density or minimum public assembly.

(7) Allow only buildings which would resist penetration by falling general aviation aircraft.

(8) Allow only land uses which would not be adversely impacted by aircraft noise.

G. ADMINISTRATIVE REQUIREMENTS

G.1 Project Approval

a. Prior to approving any final subdivision or parcel map, all public improvements required by a development shall be provided or assured to the City's satisfaction.

b. Prior to approving any final parcel map, subdivision map, site development plan or grading plan, affected special districts shall certify that the proposed development can be served adequately by the agency or attach conditions of approval that would permit adequate service.

c. If there is uncertainty regarding any of the conditions or regulations contained in the SP-1 Zone, the Planning Commission may make specific interpretations and minor adjustments to carry out the intent and purpose of the SP-1 Zone. If the issue involves a use or regulation change that the Commission determines is not intended under the SP-1 Zone, the change may only be allowed upon amendment of the Development Plan Map or amendment of the SP-1 Zone District.

G.2 Permit Granting

a. No building permit shall be issued unless subjected to site development plan review and is approved by the Planning Commission.

b. No building permit may be issued unless the applicant and all subsequent tenants certify that the proposed use complies with the development conditions and standards contained in the SP-1 zone.

c. No building permit shall be issued for combustible construction until all-weather access roads and water supply are provided and proper fire lines and fire breaks provided (subject to fire district approval).

d. All construction within the SP-1 zone boundaries shall comply with applicable City building, electrical plumbing and mechanical codes.

e. No subdivision or use permit shall be approved unless appropriate street right-of-way providing public access to the site is dedicated and street frontage improvements for at least one-half of the right-of-way is constructed or guaranteed to be constructed prior to acceptance of final parcel map.

f. No building permit or grading permit for any lot or building site shall be issued until all required public streets abutting the subject lot or building site have been dedicated and the required street improvements are in compliance

with the standards of the City of Grass Valley; except on-site grading in connection with subdivision improvements. Alternatively, a developer can enter into a secured improvement agreement which guarantees completion of improvements shown on an approved improvement plan within a specified period of time.

g. All grading within the SP-1 area shall be performed under permit issued pursuant to normal City of Grass Valley development regulations and shall be in substantial conformance with the grading concept plan approved by the City Planner in the Site Development Plan review process.

h. No grading permit will be issued prior to submittal and approval of an Erosion Control Plan by the City Engineer. Such plan shall show methods to control runoff and siltation during construction and a program for maintenance until permanent landscape and ultimate drainage facilities are constructed. The Erosion Control Plan shall prohibit construction activities causing siltation and erosion from November to April, unless adequate mitigation measures are approved by the City Engineer. Preparation of the Erosion Control plan should be conducted by trained individuals who are familiar with techniques and materials used in soil stabilization work.

i. If site inspection subsequent to building permit approval reveals noncompliance with any of the performance standards upon submission of findings, the City Council may direct that the industrial operation shall cease until compliance is reestablished. The City Council may grant a compliance time of no greater than 30 days for the project to comply with required standards.

j. Any land use proposal or development standard not specifically covered by the provisions of the SP-1 District shall be subject to the regulations of the City of Grass Valley Ordinance and Codes.

H. DEFINITIONS

Permitted Uses — Permitted uses are those land uses allowed in a given subarea subject to the development regualtions of the Plan.

Conditional Uses

Conditional uses, because of their unusual site development requirements or unique operating characteristics, are subject to the granting of a conditional use permit approved by the Planning Commission in compliance with Article of the Grass Valley Code. The Planning Commission shall make the following findings before granting a Conditional Use Permit:

a. That a proposed use is in accordance with the General Plan, the Specific Plan, and meets the intent of the subarea.

b. That the proposed use, together with conditions applicable thereto, will not be detrimental to the public health, safety and welfare, or injurious to properties or improvements in the vicinity.

c. That there are adequate restrictions that will mitigate any undesirable effects of the proposed use. Uses which are not listed as a conditional use may be considered under the use permit process if deemed to be compatible with the intent and purpose of the subarea and surrounding conditions.

4.3 SUBAREA DEVELOPMENT STANDARDS AND INTENT

A. SUBAREA SP-1A

A.1	General Plan	Planned Employment Center
A.2	Specific Plan Designation	Corporate District
A.3	Existing Conditions	The subarea totals 125 acres. The subarea is bordered by Idaho-Maryland Road on the north, Brunswick Road on the east, a powerline easement along a portion of the west and is traversed by Whispering Pines Lane. The subarea is heavily wooded and consists of natural hill slopes and knolls which vary from near level to steep 2 to 1 slopes.
A.4	Planned Conditions	The proposed long-range plan for this subarea is to develop as a Corporate District with a "campus" type character. A "campus" type character includes landscaped open space between buildings, screened service areas, uniform sign and street lighting standards and maintenance of the whispering pines theme throughout. The existing uses may remain but are expected to eventually phase into office uses. This area will provide opportunities for corporate administrative

offices and small and medium size research and development firms to locate in Grass Valley within a high quality development. Land uses within the subarea should be compatible with adjacent residential uses and buffered from them.

High standards of appearance and design will be required and maintained with restrictions on outdoor storage and activities with obnoxious characteristics. Performance standards are provided to mitigate potential obnoxious effects. Parcel sizes may range from 1½ to 15 acres or more. Exact configuration will be in response to demand.

A.5 Permitted Land Use Categories

The following uses are permitted provided that a development map has been approved:

Administrative and Research

Characteristics

a. Variable lot requirements;
b. Traffic limited to employee vehicles and minor delivery;
c. Visibility and design image important;
d. Restriction promoted against vicinity impacts of noise, appearance, odor and dust.

Examples

a. Research Testing
b. Experimental Laboratory Facilities
c. Division of Corporate Headquarters
d. Instrument Design
e. Data Processing

Restricted Light Industry

Characteristics

a. Variable lot size requirements;
b. Traffic includes employee vehicles and delivery;
c. Visibility moderately important;
d. Restrictions may be necessary for noise, appearance, odor and dust.

Examples

a. Semiconductor Manufacturer
b. Products Assembly
c. Printing and Publishing
d. Finished Paper Products
e. Photographic Processing
f. Machine Assembly

Warehouse/Showroom

Characteristics

a. Small lot size;
b. Traffic includes wholesale and retail customers;
c. Moderate importance placed on visibility;
d. Design image important;
e. Restriction promoted against impacts of noise, appearance, odor and dust.

Employment Center Support

Characteristics

a. Small lot size requirements;
b. Uses may be clustered in small centers;
c. Traffic includes employees from surrounding business and minor generation from outside the area;
d. Visibility, access and appearance important.

Examples

a. Restaurant
b. Motel - Conference Center
c. Automatic Branch Bank
d. Gymnasium
e. Caretaker Residence
f. Day Care Facilities

Office/Professional

Characteristics

a. Small lot requirements though similar uses should be clustered;
b. Traffic split between vicinity business and area business;
c. Visibility moderately important.

Examples

a. Attorneys
b. Accountants
c. Doctors
d. Architects
e. Real Estate Offices
f. Engineers

Accessory Uses

Characteristics

a. Administrative, professional and business offices and dining facilities associated with and accessory to a permitted use. U89-05 (WP Chrch. of God

A.6 Conditional Uses

Churches → UP 94-02, U95-11 (1 year extension of UP 94-02)

Urban Medium Residential

Characteristics

a. Developed in conjunction with an industrial project or housing.

b. Follows uses and development standards of Subarea SP-1C.

A.7 Minimum Parcel Size — One and one-half (1.5) acre.

A.8 Minimum Setback Requirements

Front Yard:

a. Whispering Pines Lane

Parking Setback - Forty (40) feet*
Building Setback - Forty (40) feet*

b. Local Streets

Parking Setback - Fifteen (15) feet*
Building Setback - Thirty (30) feet*

c. Interior Sideyard - Twenty (20) feet

d. Corner Sideyard - Thirty (30) feet

A.9 Building Design Standards

a. The maximum height of all structures within SP-1A shall be limited to a maximum of two (2) stories plus high bay, not to exceed twenty-five (25) feet in height except that heating, cooling, other roof equipment and fire storage facilities may extend above the 25 foot height provided they are screened and integrated into the architecture of the building.

b. Materials. Exterior building walls may be of tilt-up concrete, textured concrete, brick or stone masonry, ornamental concrete block, wood, stucco, or flush metal panels. Sheet, ribbed, or corrugated metal panels, or prefabricated buildings should not be allowed

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* From back of curb.

c. Colors may be light grey or earth tones. Bright, contrasting colors shall be avoided, except primary colors may be used as trim or accent with approval of the City Planner.

d. Outdoor mechanical equipment, transformers, utility vaults and meters, fire protection apparatus, and other utilities shall be treated as an integral part of the building design. When it is necessary to locate such equipment between the front of the building and the street, it shall be screened from view.

e. Building should be designed and oriented to maximize solar access and minimize heating and cooling requirements. Where appropriate, energy conservation methods such as glazed/double paned windows, recessed entryways, awnings and the use of solar collectors should be utilized.

A.10 Landscape Development

a. Design Intent. The "Whispering Pines Theme" refers to the Ponderosa pine forest covering much of the site and surrounding area. To strengthen and enhance this theme it is recommended that Ponderosa pine or other pines native to the California foothills be maintained as the dominant landscape tree. Other trees and shrubs, both native and introduced, may be used for landscaping but the pine tree should establish the theme over the entire site.

b. Design Elements. Seven landscape designs have been established for Whispering Pines. Innovation by individual landowners is encouraged.

(1) Street Trees for Whispering Pines Lane. This area provides the major access through the site. It is to be bordered by groves of Ponderosa pine. Trees and ground cover should take precedence, with the only shrubs being used in conjunction with ground mounted signs. (Sketch 4-1)

(2) Street Trees for Interior Roads. Many interior roads will utilize existing trees. New trees should be planted in bare or sparse areas in informal groves. It is desirable in most cases not to line trees up in rows but to plant them in irregular groupings of at least 5 to 7 trees or more. (Sketch 4-2)

(3) Trees for Frontage Setback. This area is an extension of the right-of-way and the same guidelines apply as for street trees for Whispering Pines Lane and interior roads. The main difference is that the landscaping should relate to and enhance the architecture, parking, or other facilities within this area. Also shrubs may be used for screening and ornamental purposes. (Sketch 4-3)

(4) Trees for Parking Areas. These trees provide shade in the summer and help to soften large paved areas and screen cars from view. These trees should be large groupings of pine trees incorporated within the parking lot and between parking areas. (Sketch 4-4)

(5) Trees for Buffer Areas and Steep Slopes. In most cases these are undeveloped areas where existing trees are to be preserved. Additional trees should be planted for screening and for erosion control in bare or sparsely covered areas. New trees should be planted in informal groups of at least 5 to 7 trees or more (Sketch 4-5) as necessary to provide uniform and continuous growth.

(6) Landscaping for Wolf Creek Parkway. New planting in bare areas within the existing riparian corridor is encouraged. Species native to the streamside environment such as Alder and Willow should be used. (Sketch 4-6)

(7) Landscaping Around Buildings and Entries. Planting to accent driveway and building entries, to provide shade and to offer all year seasonal interest is encouraged. Landscaping around building may incorporate ornamentals but should emphasize pine trees as the predominant plant material. (Sketch 4-7)

c. Implementation. The following design standards are provided to guide site planning and landscape development on individual parcels. They should be tailored to meet specific site conditions.

(1) Topographic Survey. Before planning on indivparcels begins, an accurate topographic survey should be prepared showing the location of all trees eight (8) inches in diameter or more, species and condition and elevation at breast height.

(2) Site Plan. Each developer must submit a Site Plan to the City Planner showing the following information:

- All existing trees within the Design Control Corridor which are a least eight (8) inches in diameter at six inches above the ground.
- Trees to be preserved and trees to be removed.
- New trees and tree groves.
- Proposed methods of tree protection and tree removal during construction.
- Grade changes adjacent to or within the Design Control Corridor with proposed methods of how the grade, drainage and soil aeration will be maintained around trees to remain.
- A tabulated inventory of the size (trunk diameter) approximate height, condition, species and location of all trees 8 inches and over in diameter within the area to be developed.

(3) Quantities and Spacing. Trees should be planted in sufficient quantities to maintain an overall wooded appearance. The quantities recommended in Table 4-1 are minimums and should be increased in barren areas.

(4) Topsoil. Much of the site is covered with good topsoil that can be used in place or transported to other areas of the site where topsoil is lacking. In rocky areas or areas with poor topsoil, the unsuitable material shall be removed and replaced with suitable topsoil in each planting pit.

(5) Irrigation. A fully operational automatic underground irrigation system shall be installed for newly landscaped areas. Trees planted in buffer areas and on steep slopes shall be watered until they become well established.

(6) Guying and Staking. All newly planted trees should be adequately guyed and staked to insure protection against humans, animals and wind.

(7) Protection of Existing Trees. During construction, the contractor shall erect protective barriers around all existing trees to be preserved in the construction area and shall not allow equipment, materials or debris to be placed near these trees within the drip line.

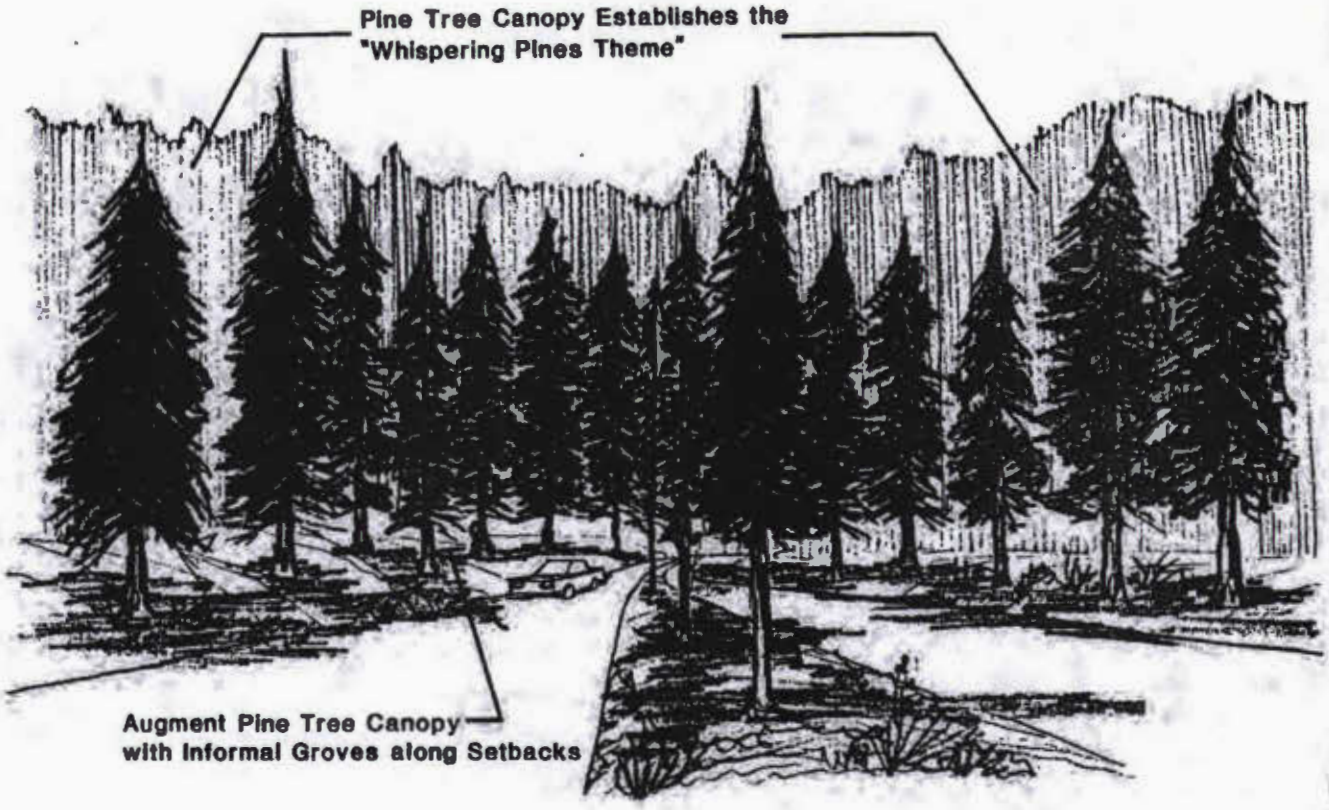
Table 4-1

RECOMMENDED PLANT PALETTE

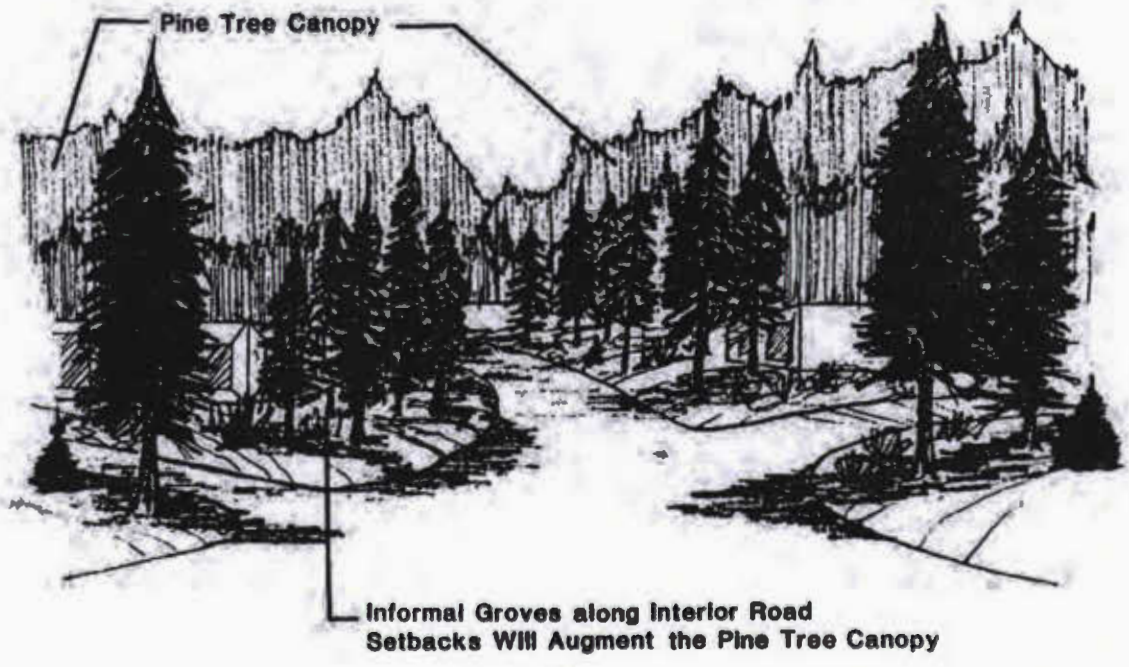
Design Element	Species	Spacing/Quantity
Whispering Pines Lane	Ponderosa pine - predominate Douglas fir White fir Incense cedar Coast Redwood	12-20 feet on center Groves of 5-7 trees in median, 7-20 trees in setback
Interior Roads	All trees listed above	12-20 feet on center Groves of 5-7 trees, 7-20 trees in barren areas
Parking Areas	All trees listed above	1 tree for every 6 cars in double loaded bays, 1 tree for every 3 cars in single loaded bays.
Frontage Setback	Ponderosa pine - predominate Other existing healthy trees	Groves of 5-20 trees
Buffer Areas and Steep Slopes*	Ponderosa pine - predominate All existing healthy trees existing shrubs to be thinned	Groves of 5-20 trees
Wolf Creek Parkway	White alder Willow Dogwood California redbud	Infill within the riparian corridor
Landscaping around buildings	Hardy, low maintenance trees, shrubs and ground covers, preferably native to the Sierra Nevada but exotics such as Japanese maple, Liquidamber, Coast Redwood, Azaleas and Rhododendrons would be permissable.	

* Additional understory species to be preserved include madrone, black oak, canyon oak, tan oak, manzanita, ceanothus, fremontia, toyon, currant and chinquapin.

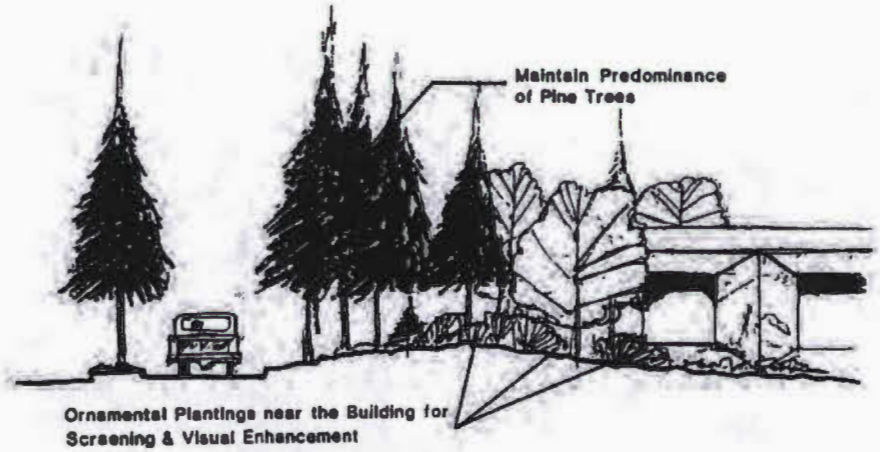
Sketch 4-1 Landscape Treatment along Whispering Pines Lane



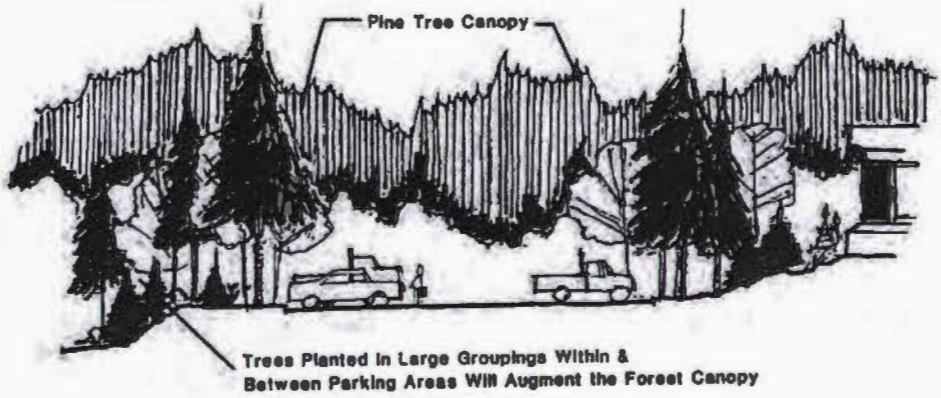
Sketch 4-2 Landscape Treatment along the Interior Roads



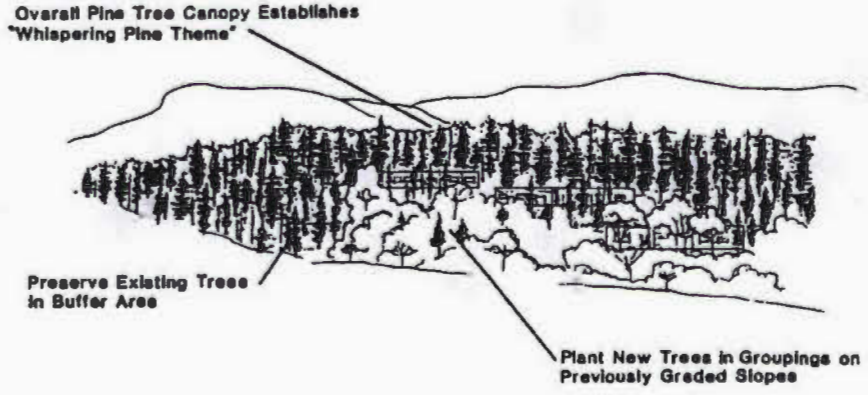
Sketch 4-3 Landscape Treatment along the Frontage Setbacks



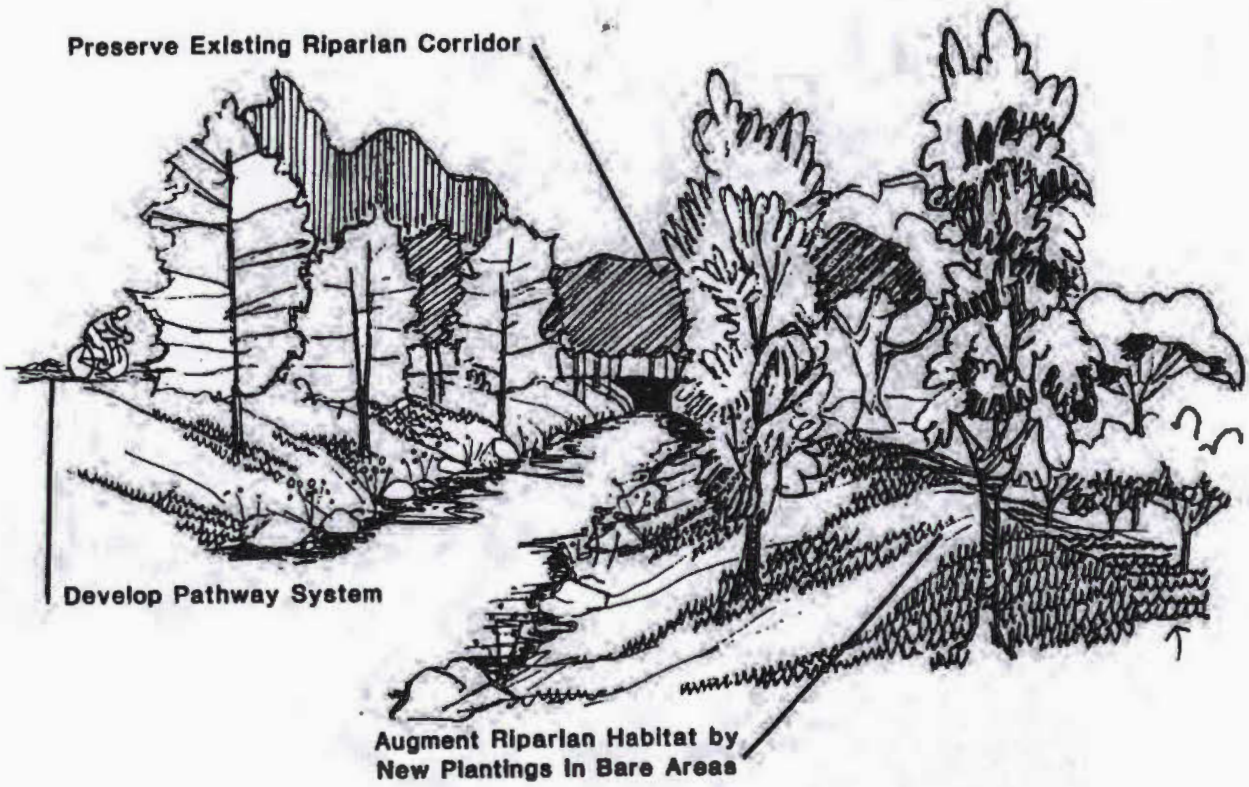
Sketch 4-4 Landscape Treatment within the Parking Areas



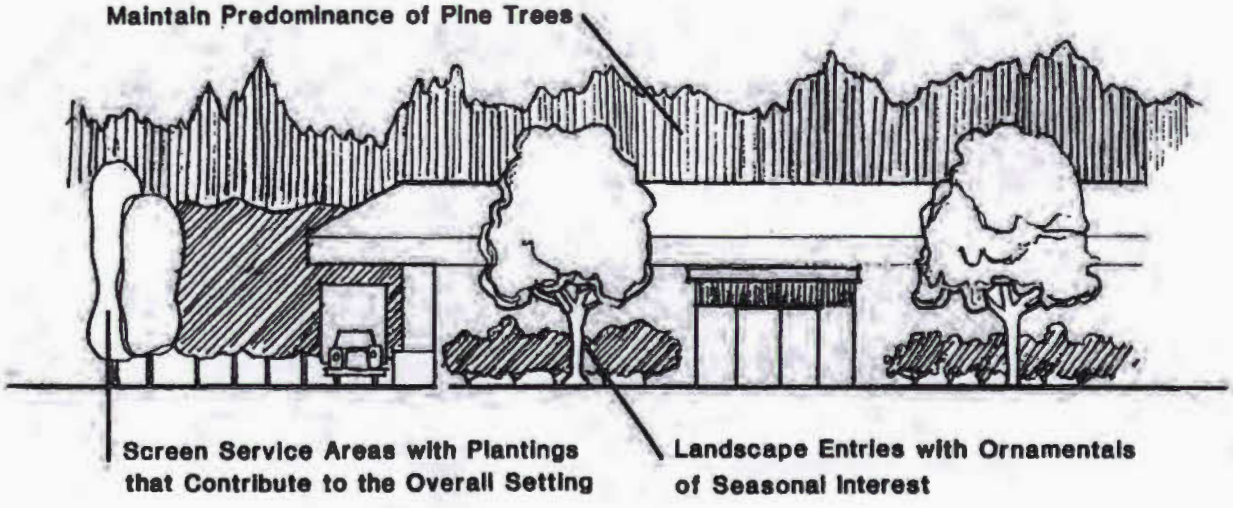
Sketch 4-5 Landscape Treatment in Buffer Areas & Steep Slopes



Sketch 4-6 Enhanced Wolf Creek Parkway



Sketch 4-7 Landscaping around Building & Entries



A.11 Signs

Purpose

a. To achieve a coordinated, well designed signage system which will enhance the entire area as well as protect individual property values.

b. To promote signs which are attractive and legible and which provide maximum convenience and safety for employees, visitors, and delivery people.

c. To reduce unnecessary visual distraction and clutter.

d. To provide a signage system which allows individual tenant identity and encourages high quality graphics.

Identification Signs

a. Signs may be located on exterior building walls, or mounted on the ground as free standing signs in front of the building. One ground mounted sign for each major entrance to a parcel. Maximum allowable height of a ground mounted sign is six (6) feet above the top of adjacent curb. Exception: signs at major entry points may be twelve (12) feet above curb.

b. The sign may contain only the company name (including type of business or product), and company logo design.

c. Signs may not project above the roofline of a building.

d. Maximum height of lettering is two (2) feet.

e. Letters may be illuminated by back-lighting or by floodlights mounted on the ground. All light sources shall be hidden. "Can" type, interior lit signs are not allowed. Flashing lights are not allowed.

f. Multi-tenant buildings shall have all signs coordinated and mounted on a single structure or frame. One such structure or frame may be located at each main vehicular entry, and one located on the building adjacent to each main entry. Individual signs shall be easily changeable.

g. All conduit, transformers, and other equipment shall be hidden from view.

h. Billboards or advertising signs, pole mounted and moving signs painted signs on building walls are not allowed.

	Directional and Informational, Parking, and Building Number Signs	a. Smaller signs to assist drivers are encouraged. These include directional, parking, delivery and building number signs. They should carry a consistent theme throughout the industrial area.
		b. Bollards, or small kiosk type signs, may also be used.
A.12	Outdoor Lighting	a. All outdoor lighting fixtures should be designed and sited so that night time illumination will not become a nuisance to adjacent residential areas.
		b. The purpose of lighting is to provide safety, security, and information. Lighting for advertising or special effects will not be allowed.
		c. High post mounted fixtures (30-40 feet should be used along Whispering Pines Lane.
		d. Medium height post mounted fixtures (20-30 feet) should be used along interior and secondary roads.
		e. Low mounted fixtures (12-20 feet) should be used in parking and service areas, building entries and pedestrian areas.
A.13	Special Considerations	a. Whispering Pines Lane will eventually carry a significant volume of traffic. In order to minimize vehicular access problems, the minimum parcel width requirement for new parcels along Whispering Pines Lane is 200'.
		b. All development within 150 feet of the street property line of Whispering Pines Lane shall be subject to the Design Review Corridor standards.

B. SUBAREA SP-1B

B.1	General Plan Designation	Manufacturing - Industrial
B.2	Specific Plan Designation	Industrial/Services District
B.3	Existing Conditions	This subarea is located in the western sector of SP-1. This subarea consists of 19 acres. Several structures representing the remnants of the now defunct Idaho-Maryland Mine still exist in the southwestern portion of this subarea.

Much of the ground surface of this subarea has been altered by previous mining and logging activities. In the western portion of the subarea the ground has been levelled into an upper and lower terrace with a 25 feet high fill slope in between. An extensive area of mine tailings form a lobe stretching along the northern property line.

The eastern end of the subarea is a steep hillside which has been previously graded on the upslope side into two large terraces with exposed cut and fill slopes up to 20 feet deep. The lower part of the hillside is very steep and rocky. Cut and fill slopes are barren while vegetative growth on undisturbed slopes consists of a sparse mixture of digger pines and underbrush.

Numerous private roads traverse the subarea. Wolf Creek runs west along the northern edge of the subarea between the useable land and Idaho-Maryland Road. Some riparian vegetation exists along its banks.

B.4 Planned Conditions

This subarea is to serve a broader range of industrial activities, typically light manufacturing and wholesale distribution functions.

The purpose and intent of SP-1B is to promote employment generating uses by providing enough flexibility to permit industrial, support uses, services and other compatible industrial activities under certain restrictions to promote quality standards and compatibility with the nearby SP-1A Corporate District.

Although the SP-1B subarea may be offered for Office and Research uses it will also provide for a variety of community-serving light manufacturing, warehousing and distribution activities.

Outdoor industrial activities and storage may be permitted provided standards are met.

B.5 Permitted Use Categories

The following uses are permitted provided that a development has been approved:

a. Administrative and Research

b. Restricted Light Industry

c. Warehouse/Showroom

d. Employment Center Support

e. Office/Professional

f. Accessory Uses

Manufacturing/Processing

Characteristics

a. Variable lot size requirements;

b. Traffic includes employee vehicles and service and delivery vehicles;

c. Any obnoxious effects mitigated;

d. Visibility not important;

e. Appearance to meet minimum standards.

Examples

a. Food Products

b. Drugs and Cosmetics

c. Chemical Laboratories

d. Dry Cleaning

Manufacturing - Small Shop

Characteristics

a. Lot size flexible;

b. Uses consist of small shops within larger complex;

c. Traffic includes mixture employee, customer and service vehicles;

d. Visibility of industrial units not important;

e. Retail should be restricted to prevent domination of parking;

f. Concrete or steel construction of units practical; however, some design and color control should be used to maintain good impage.

Examples

a. Incubator units from 1,000-1,800 square feet. Cells which can be combined for larger space needs.

b. Metal Fabricator.

Warehouse/Distribution

Characteristics

a. Variable lot requirements;

b. Traffic includes customer vehicles, employee vehicles, delivery trucks;

c. Access and internal circulation important;

d. Visibility requirements vary;

e. Visual impact may require screening or design mitigation.

Examples

a. Distribution Facilities for General Merchandise
b. Moving and Storage Facilities
c. Wholesale Stores

Warehouse - Individual

Characteristics

a. Flexible lot size;
b. Traffic level low;
c. Moderate visibility requirements;
d. Visual impact may require design mitigation;

Examples

a. Mini-Storage
b. R-V Storage

Service - Contractor

Characteristics

a. Small to medium size parcel requirements;
b. Typically includes service vehicles, equipment and variable storage requirements.
c. Outdoor storage of materials permitted subject to a use permit;
d. Use can be singular or clustered.

Examples

a. General Contractor
b. Plumber
c. Janitor
d. Roofer
e. Pool Installer
f. Well Driller

Service - Maintenance and Repair

Characteristics

a. Small shops, service vehicles and storage of equipment;
b. Parts and repair items;
c. Limited customer traffic;
d. Moderate need for visibility;
e. All work performed indoors.

Examples

a. Electrical Applicance Repair

b. Business Machine Repair

c. Clock Repair

d. Upholstery Repair

Automotive - Maintenance and Repair

Characteristics

a. Small shops with service bays and specialized equipment;

b. Temporary outdoor parking of vehicles to be washed; however, no dismantled vehicles permitted;

c. Moderate need for visibility

Examples

a. Tuneup Shop

b. Transmission Shop

c. Foreign Car Repair

B.6 Conditional Use Categories

The following uses may be permitted depending on traffic generation and mitigation of obnoxious effects:

a. General contractor and construction industries relating to the building industry, such as general contractors, plumbing contractors, etcetera, contractors equipment storage yeard for the storage and rental of equipment and materials commonly used by contractors.

b. Truck and large equipment maintenance and repair.

c. Retail hardware and farm supply.

d. Cement bulk plant.

e. Other uses which the Planning Commission finds to be consistent with the purpose and intent of the SP-1B subarea and which are of the same general character as the uses set forth in this section.

B.7 Minimum Parcel Size

One (1) acre

B.8 Minimum Setback Requirements

a. Whispering Pines Lane

Parking Setback - Twenty (20) feet*
Building Setback - Twenty (20) feet*

b. Local Streets

Parking Setback - Fifteen (15) feet*
Building Setback - Fifteen (15) feet*

c. Interior Sideyard - Ten (10) feet

d. Corner Sideyard - Fifteen (15) feet

e. Rear Yard - Ten (10) feet

B.9 Building Design Standards

The purpose of building design standards within the SP-1B subarea is to ensure that the built environment within this light industrial area is compatible with the residential neighborhood which overlooks the subarea from north of Idaho-Maryland Road and with the adjacent high quality SP-1A subarea.

a. Maximum building or structure height shall not exceed 35 feet.

b. The design of buildings and their surrounding outdoor activities should include measures to insure compatibility with nearby residential uses and the SP-1A subarea.

c. The use of prefab, all metal steel for sheathing of buildings is prohibited from the SP-1B category. This is not to preclude the use of metal detail within architecturally designed building. Where used, metal buildings shall be architecturally designed to be compatible with the building design intent of this subarea.

d. Colors, materials and finishes shall be coordinated in all exterior building elevations to blend with the natural environment.

e. Outdoor facilities within public view such as storage areas, loading docks and equipment shall be architecturally integrated with the surrounding building design. Mechanical equipment, transformers, and utilities should be screened from view.

f. Outdoor industrial activities along Whispering Pines Lane and storage areas shall be screened from public view. Such screening may include continuous landscaped earth berms, stone or concrete masonry walls,

* From back of curb.

or chain link fence with landscaping. Continuity of screening material for all parcels along Whispering Pines Lane is encouraged.

B.10 Special Considerations

a. In order to minimize vehicular access problems on Whispering Pines Lane, the minimum parcel width along Whispering Pines Lane is 200'.

b. All development within 150 feet of the street property line of Whispering Pines Lane shall be subject to design review.

c. A landscaped setback area of no less than 20' from the street property line shall be provided and permanently maintained. In areas where the horizon soils are less than 36" over parent bedrock or consist of broken rock or inert mineral particles, such landscaped setback area shall be excavated to a depth of 36" and backfilled with fertile loam.

d. The landscaped setback area shall be permanently served with an irrigation system and planted with Ponderosa pines or other appropriate pine varieties in order to help screen outdoor storage and loading activities and to continue the pine forest theme of Whispering Pines Lane. (Refer to Figure 4-7)

e. No new private or public road shall be permitted to access from Idaho-Maryland Road to the subarea. The existing private road from Idaho-Maryland Road which serves the Tom's Sierra Company and northern portion of Robinson Timber ownerships may be maintained. Such road shall allow emergency fire access.

The private road with an access point to Idaho-Maryland Road just east of the Wolf Creek bridge shall have its access to Idaho-Maryland Road terminated when the new Idaho-Maryland Road - Whispering Pines Lane connection is completed west of SP-1.

f. The existing sewer easement from Idaho-Maryland Road across Wolf Creek to the Robinson parcel shall be maintained.

C. SUBAREA SP-1C

C.1	General Plan Designation	Planned Employment Center
C.2	Specific Plan Designation	Urban Medium Residential
C.3	Existing Conditions	This area comprises about 10 acres in the northeast sector of SP-1. No existing uses occur in the subarea. This area is heavily wooded in part and the terrain is rugged, with north-facing slopes between 2 horizontal to 1 vertical and 3 horizontal to 1 vertical. Three terraces up to 100 feet wide and 400 feet long have been constructed on this slope by means of cuts and fills up to 15 feet deep. This area is densely populated with Black Oaks, Ponderosa pines, and heavy underbrush. The Idaho-Maryland Mine ditch (no longer used) traverses the area.
C.4	Planned Conditions	The SP-1C subarea provides for residential development as the appropriate use because the terrain is very steep and residential use is appropriate within a planned employment center as it will provide housing opportunities for nearby employees.
C.5	Permitted Uses	a. Residential density shall be up to 12 units per gross acre. b. Housing types allowed include attached or detached single-family homes, rental apartments, patio homes, townhouses and condominiums. c. Urban Medium Density for the entire SP-1C subarea may necessitate density transfer within the subarea under a single development plan to cluster units while leaving steep terrain and the Maintained Buffer Area undisturbed. d. Urban Medium Density within the SP-1C subarea is subject to zoning code procedures unless established as part of a development plan.
C.6	Development Standards	a. Individual structures on lots shall comply with the setbacks and site requirements established by the Grass Valley Zoning Ordinance 69 N.S., as amended, Article 6A, R2A, Multiple-Family Residential District Regulations. b. Cluster unit design may propose project specific standards; however, provision of all resident amenities must be incorporated into the development plan.

c. Any proposal for Urban Medium Density shall provide for a project work proposal of standards, setbacks and amenities. Minimum setbacks for primary structures shall be ten (10) feet from property lines.

d. High quality and innovative design shall be required to provide unit and site amenities and attractive visual appearance in exchange for the Urban Medium Density designation.

C.7 Special Considerations

a. No private or public roads shall be permitted to access to Idaho-Maryland Road from the subarea.

Chapter 5

SPECIFIC PLAN ADMINISTRATION

Chapter 5

SPECIFIC PLAN ADMINISTRATION

5.1 INTRODUCTION

This section has a two-fold purpose. The first is to establish a process for the adoption of the Specific Plan and subsequent amendments. The second is to develop a simplified mechanism for processing development proposals.

5.2 ADMINISTRATION

The Planning Department is responsible for the administration, implementation and enforcement of the Specific Plan.

5.3 SPECIFIC PLAN ADOPTION

A Specific Plan is similar to a Zoning Ordinance in that it implements the General Plan through land use designation on a map, listing or referencing permitted specific uses, standards for development and appropriate special conditions. Title 7, Article 8 of the California Government Code provides the requirements for the contents of a Specific Plan as well as the basis for the following adoption process:

A. Certification of the Master Environmental Impact Report.

B. Public hearing by the Planning Commission after providing a minimum of ten (10) days notice published in the local newspaper.

C. Recommendation to the City Council through resolution with a minimum affirmative vote of the majority of the total voting membership of the Commission (3).

D. Public hearing by the City Council in accordance with the above notice requirements.

E. Adoption by ordinance of the City Council. (Note that any changes by the Council in the recommended plan have to be referred back to the Planning Commission for reconsideration and recommendation to the City Council per Section 65504 of the California Government Code, Title 7).

5.4 SPECIFIC PLAN AMENDMENT

Amendments to the Specific Plan may be initiated by a developer or property owner as well as by the City in accordance with the procedures outlined for initial adoption. In addition to these requirements, an amendment shall require notification of property owners within 300 feet of the boundaries of the area requested for amendment. Community members beyond 300 feet which could be impacted by a Specific Plan amendment should also be notified.

A. APPLICATION REQUIREMENTS

1. A Specific Plan map drawn to equivalent scale showing the revision.

2. A written outline substantiating the requested change.

3. Fees for application will be as established from time to time by resolution of the City.

4. An environmental assessment form and filing fee.

5. Other information as may be deemed necessary by the City Planner.

B. SCOPE OF AMENDMENT

The City Planner will be responsible for determining "major" amendments as opposed to "minor" amendments to the plan and its standards. "Major" amendments are to be processed as outlined above through the Planning Commission and City Council. Among the items which would be considered major are:

1. Introduction of a new type of land use not discussed in the Specific Plan.

2. Major changes to the layout of land use (affecting one acre of land or more) or other changes which may significantly affect a planning concept spelled out in this report.

3. Major changes to the proposed street system that would significantly alter land use or circulation concepts spelled out in this plan.

4. Changes or additions to design standards which could significantly change the stated intent of this Specific Plan.

5. Any change to the plan which could significantly increase environmental impacts.

Within ten days of the submittal of a request, the City Planner will determine whether the change is "major" or "minor." If it is a major change, then the City's adopted Specific Plan amendment procedures will be followed. If it is a minor change, the City Planner may approve or deny the request. His decision may be appealed to the Planning Commission and, if necessary, the City Council within five working days.

5.5 FINDINGS

In considering any amendment to the Plan or its standards the following findings shall be considered by the appropriate decision-making body:

A. Changes in the community have occurred since the adoption of the Specific Plan warranting an amendment as requested.

B. The change will benefit the Specific Plan area.

C. The change is in conformance with the adopted General Plan.

D. The change will not adversely affect adjacent properties and can be properly serviced.

E. The physical constraints of the property are such that the change is warranted.

5.6 ENVIRONMENTAL DOCUMENTATION

The Master Environmental Impact Report to be certified for this Specific Plan is meant to apply to future projects in the area. The following policies will guide the determination of need for additional environmental assessment:

A. An environmental assessment will be required for Specific Plan amendments, which may result in a negative declaration or additional EIR work depending on the scope of impact as determined by the City.

B. No additional environmental information will be needed by the City for development projects that are consistent with the adopted plan. Consistency will be determined by the City Planner.

C. If it is determined that a development proposal will have environmental impacts not originally addressed in the Master EIR, then additional environmental study or mitigation may be required. The City Planner will make this determination.

5.7 DEVELOPMENT PLANS

Once the Specific Plan is adopted, the area will be allowed to proceed through the steps of annexation and development plans in accordance with the Specific Plan standards. This section deals with the processing of development plans that will result in actual construction. For detailed processing of plans and submission requirements, developers are referred to the Planning Department.

A. ANNEXATION

Once the Specific Plan is adopted, land in the area will be eligible to apply for annexation. The annexation is processed through LAFCO and will be judged acceptable based on the City's ability to provide adequate services, and the area being contiguous to existing City limits.

Annexation of the Whispering Pines parcels to the City of Grass Valley would involve an application to the Nevada County Local Agency Formation Commission (LAFCO). LAFCO could make one of three decisions on the annexation application--approve, disapprove or approve with conditions. The "conditions" could involve--a. a transfer of a prorata of the assets of the two fire districts affected and/or b. a modification of the annexation boundaries to include either more or less land.

B. PLANNED UNIT DEVELOPMENTS

The land use map of the Specific Plan and conditions for development shall determine the types of uses allowed in a particular area. When particular areas are proposed for development, they shall be processed in accordance with Article 16A of the Grass Valley Zoning Ordinance Planned Unit Development District, with the following additional provisions:

1. The preliminary plan stage is at the applicant's option with the consent of staff.

2. Individual use permits per Article 16 of the Zoning Ordinance will not be required unless specified as part of the project conditions.

3. There is no minimum area for a Planned Unit Development Plan.

4. An additional finding for approval should include the project's consistency with the Specific Plan.

5. The applicant shall show how all services will be provided for the site in a manner acceptable to the City.

6. Overall circulation, maximum height and bulk, minimum setbacks, yard area, parking, lot size, grading, architectural elevations, improvement plans, sign program and landscape plans shall be enacted as part of the Final Development Plan to be reviewed by the Whispering Pines Lane Design Review Committee (for applications within the Whispering Pines Lane Design Review Corridor) and Planning Commission as appropriate. The existing standards shall be used as a guide, but innovations will be considered based on merit.

7. Each Planned Development shall prepare conditions, covenants and restrictions (CC&R's) for the purpose of further defining land use regulations within a Planned District. CC&R's shall be reviewed and approved by the City and enforced in event that an owners' association does not enforce its own provisions.

8. Planned developments shall follow the policies and standards set for the parcel by the Specific Plan. Modifications of the policies and standards can be approved by the Planning Commission if one of the following findings can be made.

a. The modification of the policies and standards will improve the long-term design or setting of the Specific Plan.

b. Areawide change in land use or circulation needs require modification of parcel needs.

C. CONSTRUCTION PLANS

In those instances where there is:

1. An individual parcel of land which was not included as part of a final development plan, or

2. An individual parcel of land existed prior to Specific Plan adoption or annexation to the City, and

3. The request is to build no more than an individual structure for a single user commercial building or single user industrial building,

then the process will be as follows:

4. Submission of site plan to staff including landscape plans, elevations and sign program.

5. Plan will be checked with the Specific Plan for consistency. Setbacks and design should be consistent with acceptable standards of adjacent uses.

6. Action by the City Planner may be appealed to the Planning Commission.

7. Building permit can be issued upon compliance with conditions.

D. NONCONFORMING USES

Those uses existing prior to adoption of the Specific Plan or annexation may continue to exist for their natural life or may be replaced by a similar or less intensive uses. Building and site may be upgraded as needed, provided standards for design are not reduced. Significant physical expansion of the nonconforming site, building or use will not be allowed without Planning Commission approval. Total destruction of a site's facilities by any means will require that a redevelopment be in conformance with the Specific Plan.

E. SUBDIVISIONS

All processing of tentative and final maps will be in accordance with the Grass Valley Subdivision Ordinance No. 180 N.S. All services will be required to be provided in an acceptable manner and will include compliance with but not limited to the following:

1. Specific Plan circulation requirements.

2. Appropriate Specific Plan policies, guidelines and standards.

F. ENFORCEMENT OF STANDARDS AND REGULATIONS

Any regulatory issue not included in the standards of the Specific Plan or the conditions of approval for the Specific Plan District proposal shall be regulated by the Grass Valley Zoning Ordinance.

Chapter 6

IMPACTS , MITIGATIONS & ALTERNATIVES OF THE EIR

The Final EIR, as certified by the City of Grass Valley consists of the following sections:

- Existing Setting - Chapter 2 of this document
- Impacts and Mitigation - Chapter 6 of this document
- Response to Comments on the Draft EIR - Appendix F which is a separate document

Chapters 2 and 6 are the Draft EIR which were reviewed in the 45 day public review period which ended on November 14, 1983. The Final EIR consists of Chapters 2 and 6 and the Response to Comments on the Draft EIR. The Draft EIR has been amended to correct typos. Clarification or expansion of information in the Draft EIR is only contained in the Response to Comments section--the text of the Draft EIR otherwise has not been amended.

Chapter 6

IMPACTS, MITIGATIONS AND ALTERNATIVES OF THE EIR

6.1 EIR SCOPE AND PURPOSE

This chapter analyzes impacts which would result from full implementation of the Specific Plan for the Whispering Pines Corporate Community. According to CEQA an EIR must be prepared on a project which has a potential for resulting in a significant physical change in the environment, directly or ultimately. In the case of the Whispering Pines Corporate Community, the Specific Plan is a project which will involve the issuance to property owners and developers by the City and other public agencies of an entitlement for a change in use of the area. It also involves prezoning the area according to Specific Plan requirements and annexation to the City. The Specific Plan project is the activity which is being approved and which is subject to discretionary approval by governmental agencies.

This EIR represents the third phase of the Specific Plan Refinement Study. It assesses and mitigates impacts of the project (the Plan) on the community (existing conditions). The discussion of mitigations delineates those already embodied in the Specific Plan document and additional measures identified in the EIR process. Chapter 6 also adds the comprehensive evaluation section as required by CEQA (growth inducing and cumulative impacts and alternatives). Chapter 6, together with Chapter 2: Existing Setting, constitutes the full EIR on the Specific Plan.

This EIR is a Master EIR per Section 15069.8 of the CEQA Guidelines which allows that one EIR may be prepared on several individual projects (in this case 7 separate land ownerships) carried out under the same authorizing regulatory agency and having similar environmental effects. This Master EIR will have several advantages:

- It provides a more comprehensive examination of development effects of seven individual parcels under one annexation application rather than a case-by-case analysis of each parcel.

- It ensures full consideration of offsite impacts.

- It avoids duplicative consideration of basic planning policies.

- It provides the lead agency (the City) more flexibility in resolving cumulative development effects.

- It reduces (but not necessarily eliminates) the need for further environmental analysis, provided future projects conform to the conditions established by the Specific Plan and this EIR.

6.2 PROJECT DESCRIPTION

A. LOCATION

The project site* lies in unincorporated territory of Nevada County adjacent to the easterly boundary of the City of Grass Valley, a little over a mile from Downtown Grass Valley. It is located in the southwest quadrant of the Idaho-Maryland Road-Brunswick Road intersection.

B. SITE CHARACTERISTICS

The site has a long gold mining history. Mining activity ended many years ago and remnants of old mine buildings, shafts and disturbed terrain still exist on the site. The land is generally north sloping and heavily covered with trees and understory vegetation characteristic of the life zone which exists at the 2500-3000 foot elevation.

* The total project site acreage is 154 acres.

C. PROJECT HISTORY

An application was made in early 1983 by five of the seven property owners to prepare a Specific Plan for their properties, prezone the area and annex it into the City in order to receive municipal facilities and services. The remaining two property owners have indicated their willingness to be included within the Specific Plan and to be annexed. The Specific Plan was prepared in draft form in September 1983 and subjected at that time to public review.

D. DEVELOPMENT CHARACTERISTICS OF THE PROPOSED PROJECT

1. Estimated Net Developable Area

Table 6-1 shows the "estimated developable area" for each of the seven property owners. The net developable area is that portion of the property which is estimated to be used for development. Total building area and employees/acre are determined from these net developable acres. To estimate the net developable area, the portions of the project properties used for roads or that which have a natural slope greater than 12% were subtracted. Slopes greater than 12% are very expensive to improve which tends to constrain, but not totally eliminate, their potential for commercial and industrial development. Undoubtedly, some slopes greater than 12% will need to be utilized for development while other slopes less than 12% will be left open. These are assumed to balance out.

2. Planned Land Uses By Ownership

The proposed uses by ownerships and subareas are summarized in Table 6-2. The estimates in Table 6-2 anticipate that the existing church and residential buildings will be

Table 6-1

ESTIMATED NET DEVELOPABLE AREAS
Whispering Pines Corporate Community

August 1983

Acres

Property Ownerships	Total Parcel Area	Street Area	Natural Area Greater Than 12%	Total Net Developable Area
Town and Country	91.00	7.80	17.90	65.30
	100%	9%	20%	72%
Loma Rica Inc.	15.30	1.54	2.89	10.87
	100%	10%	19%	71%
Church-of-God	11.00	2.74	3.88	4.38
	100%	25%	35%	40%
Patterson	5.20	.36	2.27	2.57
	100%	7%	44%	49%
Nevada City Engineering	7.00	.70	2.01	4.29
	100%	10%	29%	61%
Robinson	23.30	2.25	9.81	11.24
	100%	10%	42%	48%
Tom's Sierra Co.	1.40	.	.44	.96
	100%	.	31%	69%
PROJECT PROPERTIES	154.20	15.39	39.20	99.61
	100%	10%	25%	65%

Note: Numbers may not add due to rounding.

converted to office type uses; and that the remaining portion of the Church properties will be developed for residential uses (20 or 30 housing units).

3. Assumptions On Characteristics Of Proposed Development

Table 6-3 summarizes some of the major factors used in anticipating the characteristics of the fully developed project.

Anticipating the characteristics of the future Corporate District or the Industrial/Services District is a challenging assignment since such developments will typically take five to ten years or more to develop, and use characteristics may vary widely. The "typical characteristics" selected reflect the situation in Grass Valley where industrial and business service type uses have been developed somewhat less intensively than in larger urban areas. The averages used in projecting the use characteristics of the proposed developments are derived from experience in similar types of development, and are suitable for carrying out the studies needed at this level of planning.

Table 6-4 summarizes the project's characteristics by type of use, while Table 6-5 summarizes the project's characteristics by ownership.

It is anticipated that frontage along Whispering Pines Lane and the hilltop areas of the Town and Country properties will develop with corporate offices, R & D and hi-tech type uses. SP-1B provides sites oriented towards the light and medium industry/warehouse/distribution/ business services type uses. SP-1C provides for residential uses on the northerly portion of the Church property.

Table 6-2

PLANNED LAND USES BY OWNERSHIP
AND SUBAREA
Net Developable Acres

Owner	SP-1A Corporate District	SP-1B Industrial/ Service District	SP-1C Resi- dential	Total Net Devel- opable Area
Town and Country	65.3	.	.	65.3
Loma Rica Inc.	10.9	.	.	10.9
Church of God	1.4	.	3.0*	4.4
Patterson	2.6	.	.	2.6
Nevada City Engineering	4.3	.	.	4.3
Robinson	4.7	6.5	.	11.2
Tom's Sierra	.	1.0	.	1.0
NET DEVELOPABLE ACRES	89.2	7.5	3.0	99.7

* Three acres of the parcel in this subarea is indicated as developable in this table. However, areas greater than 12% are designated for residential which would be subject to careful design and engineering.

Table 6-3

PROJECT FACTORS BY SUBAREA

Project Factors	SP-1A Corporate District	SP-1B Industrial/Service District
Major Uses	Offices R&D Hi-Tech	Lt. & Med. Ind., Warehse., Distribu- tion and Services
Building Types	1 or 2 Stories and Hi-Bays	1 or 2 Stories and Hi-Bays
Bldg. Area/Acre (SF) Coverage	10,000 23%	12,800 29%
Employees/Acre	23.1	11.5
ADT: Trips/Acre	73	39
Land Value/Sq. Foot	$2.50	$1.50
Bldg. Costs/Sq. Foot	$29.00	$21.65

Table 6-4

INDUSTRIAL PROJECT CHARACTERISTICS BY TYPE OF USE

$ Values in 1983 $'s

ITEM	....WHISPERING PINES INDUSTRIAL DISTRICTS....		
	SP-1A	SP-1B	TOTAL
GROSS ACRES	125.1	19.7	144.8
NET ACRES	89.0	7.6	96.6
BUILDING AREA (000'S OF SQ.FT.)	890.	97.	987.
EMPLOYMENT	2060.	90.	2150.
TRAFFIC: AVERAGE DAILY TRIPS	6500.	300.	6800.
SALES OR REVENUES ($000'S)	580.	720.	1300.
MARKET VALUATION ($000'S)	42620.	3100.	45720.
ASSESSED VALUATION ($000'S)	36320.	2720.	39040.
TAX REVENUES ($'S)	116920.	15580.	132500.
PROPERTY TAXES ($'S)	111130.	8330.	119460.
SALES TAXES ($'S)	5790.	7250.	13040.

NOTE: DOES NOT INCLUDE 9.4 ACRES DESIGNATED FOR HOUSING.

Table 6-5

INDUSTRIAL PROJECT CHARACTERISTICS BY OWNERSHIP

$ Values in 1983 $'s

ITEM	....WHISPERING PINES INDUSTRIAL DISTRICTS....							
	TOWN & CNTRY	LOMA RICA	CHURCH OF-GOD	PATTER-SON	NEV.CTY ENGINRG	ROBIN SON	TOM SIERRA	TOTAL
GROSS ACRES	91.0	15.3	1.6	5.2	7.0	23.3	1.4	144.8
NET ACRES	65.3	10.9	1.4	2.6	4.3	11.2	1.0	96.6
BUILDING AREA (000'S OF SQ.FT.)	653	109	14	26	43	130	13	987
EMPLOYMENT	1510	250	30	60	100	190	10	2150
TRAFFIC: AVERAGE DAILY TRIPS	4770	790	100	190	310	600	40	6800
SALES OR REVENUES ($000'S)	540	.	.	.	.	670	90	1300
MARKET VALUATION ($000'S)	31260	5200	650	1230	2050	4930	400	45720
ASSESSED VALUATION ($000'S)	26640	4430	550	1050	1750	4370	350	39040
TAX REVENUES ($'S)	86900	13600	1700	3200	5400	19700	2000	132500
PROPERTY TAXES ($'S)	81500	13600	1700	3200	5400	13000	1100	119500
SALES TAXES ($'S)	5400	.	.	.	.	6700	900	13000

NOTES: SOME NUMBERS MAY NOT ADD DUE TO ROUNDING.
THE FIGURES FOR THE CHURCH OF GOD PROPERTIES DO NOT INCLUDE THE 9.4 ACRES FOR RESIDENTIAL USES.

4. Estimating the Development Period

In 1980, Nevada County's employment at firms located in the County was reported at about 16,570 by the Bureau of Economic Analysis. It had increased from 10,750 in 1975 for an increase of 5,820 or an average of 1,160 employees per year. The number of employed residents in the County has increased from 19,300 in January 1981 to 19,800 in January 1983, an average of 250 a year for the tow year period. This increase is much slower than previous rates due to the recession during this period. For purposes of estimating the rate of development for the SP-1 area, it is assumed that the annual employment growth in Nevada County is 1,000 employees.

The SP-1 area will generate employment of 2,150 (see Tables 6-4 and 6-5), which is equivalent to about two years of growth in the County's employment. Only about 60% of Nevada County jobs could occur in the type of industrial/business park proposed herein; and only 85% to 90% of these County jobs are likely in the Grass Valley/Nevada City area. The combination of these figures suggests that the average increase in jobs that could locate in the two-city area is about 500 per year. If property owners in the SP-1 area effectively managed and aggressively merchandise their individual projects, the SP-1 area could attract up to 30% of these jobs, or about 150 jobs per year on the average. At this rate of growth, it would take 10 to 15 years for the project to develop fully.

Historical experience has shown that industrial development is notoriously uneven. Therefore, while the average might be 150 employees per year, it may be substantially below that in some years (particularly the early ones) and may be higher than that in some years.

5. The Need To Monitor The Number Of Employees

Because employment is so difficult to project, and since even in the same firm it can change significantly from year to year, it is advisable to monitor the number of employees by business license questions, traffic counts, periodic inventories, etc. to insure that employment densities do not exceed the capacities of affected roads, utilities, waste disposal, etc.; and that a balance is maintained between employment and housing. By monitoring, and acting promptly when problems begin to occur, many situations can be worked out before they become unmanageable.

6.3 ENVIRONMENTAL SETTING

This section briefly outlines existing conditions at the time the Specific Plan Study was undertaken.

A. DEVELOPMENT OPPORTUNITIES

1. The General Plan designates 130 acres of the site as a Planned Employment Center and 24 acres as Manufacturing - Industrial which reflects the community's need to develop new job opportunities in the Grass Valley area to offset the current jobs/housing imbalance.

2. The site is accessed by two major roadways - Idaho-Maryland and Brunswick Road.

3. The site provides an opportunity for companies to locate in a planned industrial - business center with outstanding scenic value.

4. Careful project design and landscaping will continue Grass Valley's image as a desirable place to work and live.

5. City revenues added by the project would exceed estimated costs.

B. DEVELOPMENT CONSTRAINTS

1. The site has some steep slopes with moderate erosion potential. The western portion of the site has been severely disturbed by previous grading and mining activities.

2. Site runoff could contribute to downstream flooding problems.

3. Project development will contribute to needed improvements to the service collection and water supply systems, and expansion of sewer treatment capacity.

6.4 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed Specific Plan has made a good faith effort to lessen the significant impacts of development within the project area as well as to create beneficial community impacts. Such mitigations have been incorporated into the various sections of the Specific Plan. Additional mitigations are recommended in the EIR as necessary. All mitigations are denoted in italics.

A. SIGNIFICANT ADVERSE IMPACTS WHICH CANNOT BE MITIGATED

1. The project area will be transformed from a largely natural environment to a built environment within a natural setting.

2. About half of the project area has yielded a cut of timber every 25 to 50 years. Timber which exists on the site (1983) is second and third growth. Such timber yield will not be sustained with the project.

3. Projected increases in vehicular traffic will result in increased emissions of air pollutants.*

B. SIGNIGICANT ADVERSE IMPACTS WHICH CAN BE MITIGATED TO ACCEPTABLE LEVELS

1. Geotechnical Conditions

Unless grading for roads, buildings and parking/loading areas are properly engineered and sensitively designed, unstable conditions, erosion and significant visual disruption could occur. *The EIR and Specific Plan require extensive grading and erosion control measures .*

2. Vegetation and Wildlife

A considerable portion of the natural vegetation within the Specific Plan area will be disrupted or removed by site development. Subsequent habitat loss for species currently residing on the project site will cause pressure on wildlife communities in the area. *The Specific Plan establishes a minimum of 100 foot wide maintained buffer area which retains natural vegetation consistent with fuel break needs.*

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* While the project cannot adequately mitigate this impact, it does reduce it by providing an alternative for on-site housing for potential employees. The Plan also recommends incorporation of bus stops and shelters, as deemed appropriate.

3. Noise

On-site uses may adversely affect adjacent existing neighborhoods. Aircraft noise may adversely affect on-site residences. *The Plan requires maintenance of State standards for outdoor and indoor noise environments within the Specific Plan boundaries and noise assessment of potentially adverse noise-generating uses.*

4. Air Quality

Short-term air quality impacts will be generated by project construction. Long-term air quality impacts will be generated by project-related traffic and could be generated by on-site industrial uses.

The Specific Plan requires approval by the Nevada County Air Pollution Control District of any industrial use with air polluting potential. This will effectively reduce potential air quality impacts from point source uses. The Plan would provide local employment, thereby reducing long commutes. This will offset air quality impacts from auto traffic by providing opportunities for a shortened home-to-work commute.

The EIR recommends measures to reduce short-term air quality impacts resulting from project construction.

5. Circulation and Access

Project traffic at buildout of the Whispering Pines Corporate Community will have the following significant impacts:

The Specific Plan incorporates mitigations in terms of access allowed, roadway rights-of-way, cross sections for interior roadways, requirements for hillside roadways, special parking requirements, and permit requirements . (pp. 4-3 through 4-6 and 4-12).

The EIR section on Circulation and Access recommends the following improvements for impacted intersections.

Roadway Affected	Traffic Impact Resulting From Project At Buildout
Idaho-Maryland between the site access and E. Main Street	- Capacity not exceeded but existing safety problems would be exacerbated.
Idaho-Maryland Road/ Freeway 49 northbound on-off ramp intersection	- LOS would change from high LOS A (acceptable) to low LOS B (still acceptable) during p.m. peak hour traffic. Existing safety problems on the westbound intersection approach would be exacerbated.*
E. Main Street/Idaho-Maryland Road/Freeway 49 southbound on-off ramp section.	- LOS would change from high LOS B (acceptable to LOS D/E (unacceptable) during p.m. peak hour traffic. - Current need for signalization (at both northbound and southbound on-off ramps) would be exacerbated.
Brunswick Road/Sutton Way intersection	- LOS would change from LOS E/F (unacceptable) to LOS F (more unacceptable).
Brunswick Road/Freeway 49 northbound on-off ramps	- LOS would change from a poor LOS B (acceptable) to a good LOS C (still acceptable).
Brunswick Road/Freeway 49 southbound on-off ramps	- LOS would change from poor LOS C (acceptable) to LOS C/D (borderline acceptable).
Brunswick Road/Nevada City Highway	- No impact. LOS would remain at a good LOS B (acceptable).
Freeway 20/49	- No impact. Would continue to operate well under capacity.
Highway 174 near Brunswick Road	- No impact. Would continue to operate well under capacity.
Bennett Road between Brunswick and E. Main Street	- No impact. Little or no project traffic is expected on this road.
Bennett Road east of Brunswick	- No impact. Little or no project traffic is expected on this road.

* This situation would be remedied with completion of the left-turn lane currently under construction. However, completion date is not known.

6. Water

Due to capacity limitations of the Cascade Canal, it is unclear at this time if sufficient water supply can be delivered to the site. Current NID policy does not permit service to lots greater than two acres. The Specific Plan allows lots over 2 acres. A portion of the site lies outside NID boundaries. Currently the District has a moritorium on annexations.

The Specific Plan requires affected agencies to certify that a proposed development can be served adequately prior to approval of final parcel map, subdivision map, site development plan or grading plan.

The EIR recommends:

- *formulation of a workable fiscal program to fund needed improvements to Cascade Canal.*

- *four alternatives to serving lots larger than two acres.*

Although uncertainty remains as to how identified water service issues will be resolved, the Specific Plan's requirement for certification of service adequacy will prevent any premature development.

7. Sewer:

Depending on when individual development applications are filed, there is a possibility that sewer treatment plant capacity may not be available.

The Specific Plan requires certification by an affected agency that a proposed development can be served adequately.

The EIR recommends several funding programs to mitigate potential service impacts. Although some uncertainty remains regarding future sewerage capacity, the Plan's requirement for service adequacy certification ensures no premature development.

8. Drainage

Downstream flooding on Wolf Creek will be exacerbated by increased runoff from the impervious surfaces added by the project. *The Specific Plan requires that on-site engineered drainage plans be prepared to maximize on-site detention and that no drainage be conveyed from one watershed to another.*

The EIR recommends on-site detention ponds, prohibition of development in the flood plain, feasibility study for flood control measures on Wolf Creek and formation of a flood control zone with accompanying fee program.

9. Fire Protection

Fire response time to the site exceeds desired response time. The site's location amidst dense vegetation creates potential fire hazards.

The Specific Plan requires a variety of actions to ensure adequate fire protection and reduce the potential for on-site fires.

The EIR recommends the following measures to improve response time to the site:

a. Construct the Idaho-Maryland Road/Bennett Street connector with a link to Whispering Pines Lane.

b. Extend Dorsey Drive/Sutton Way to Idaho-Maryland Road.

c. Build a future eastern fire station in the vicinity of the site.

10. Cultural Resources

There may be historically significant buildings and structures on the Robinson parcel. There are historical artifacts (drilling cores) on the Loma Rica Inc. parcel.

The Specific Plan does not address preservation of historican features. The EIR recommends a survey by a qualified architectural historian, preservation of the drilling cores, and consultation with the Empire Mine State Park Staff regarding their interest in the headframe located on the Robinson parcel.

11. Site Vicinity Relationships

Site development could impact adjacent residences as follows: visual changes to the site; light and glare from nighttime lighting; and noise from on-site activities.

The Specific Plan addresses each of these impacts: extensive landscaping and careful siting to preserve the natural character of the site; a maintained buffer area for visual and noise protection; and development standards to prevent excessive noise levels, obnoxious odors or dust, and glare. No additional measures were deemed necessary by the EIR.

C. BENEFICIAL IMPACTS

1. The project would carry out the General Plan's intent for development of the site.

2. Project development would take advantage of market demand for well-planned industrial sites on larger parcels. If developed as a high quality corporate center, the project would be the first of its kind in Nevada County, as well as elsewhere in the western Sierra Nevada mountains. Such development would create new economic and job opportunities both on-site and throughout western Nevada County.

3. Project development would initiate and help fund construction of sewer and water extensions.

4. Project development would assist in needed off-site roadway improvements.

5. Project-generated tax revenues will help improve City and County fiscal conditions.

6. The project will contribute to the developing western Nevada County Civic Core in the Glenbrook Basin.

7. The employment provided by project development will help correct the current jobs-housing imbalance in the area.

D. CUMULATIVE IMPACTS

The Specific Plan and EIR anticipates areawide development implications by including the following features:

- Areawide traffic impacts and recommended roadway improvement mitigations, including project sharing in off-site cumulative improvements.

- Areawide public facilities and service impacts and recommended mitigations.

- Jobs-housing balance studies for the wider area.

- Fiscal contribution to the City.

- Contribution to the proposed Wolf Creek Parkway.

- Measures to reduce introduction of air pollutants by auto related traffic.

E. GROWTH INDUCEMENT

The Plan responds to growth projected by the Grass Valley General Plan for the project area. The Plan also responds to the General Plan goal to increase employment opportunities in the Grass Valley area. Thus, the Specific Plan will help mitigate a major current community problem, rather than create a new problem.

6.5 SITE SPECIFIC IMPACTS AND MITIGATION MEASURES

This section discusses, in detail, specific impacts associated with site development. Mitigations are delineated into two categories - those incorporated into the Specific Plan and those recommended by this EIR.

A. GEOTECHNICAL CONDITIONS

Potential Impacts

Site development will involve substantial grading for roads and buildings. Unless properly engineered and sensitively designed, unstable conditions, erosion, and significant visual disruption could occur.

The preliminary geotechnical report prepared for the site* concluded that the property is acceptable for the proposed development but recommends that specific measures for site grading be developed on the basis of further geotechnical studies, including test borings and supplemental geophysical work.

The report identifies several areas of concern:

- The presence of steep slopes (though most appear stable);
- moderate susceptibility of overlying soils to erosion;
- improperly engineered cut and fill slopes on the western portion of the site (Robinson parcel);
- underground seepage; and
- open mine shafts.

The report recommends measures for engineered fills, erosion control, roadways and mine shafts. These measures are incorporated into the mitigation section of this EIR.

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* Lowry and Associates. 1983. "Engineering Geologic Report Whispering Pines Park."

Mitigation Measures Incorporated Into The Specific Plan

1. An Erosion Control Plan must be submitted and approved by the City Engineer prior to issuance of any grading permit (page 4-12).

2. Grading must be performed under permit and in accordance with City regulations. A grading concept plan must be developed for each parcel and approved by the City (page 4-12).

3. The Plan lists special criteria to reduce the amount of grading for hillside roads (page 4-5).

Mitigation Measures Recommended By This EIR

1. The following mitigations would establish additional grading guidelines. These could be incorporated under a new heading - "Grading Guidelines" - in Section E on page 4-9 of the Specific Plan:

   a. Grading shall be held to a minimum with every effort made to retain the natural features of the land: ridgetops, native vegetation, rock outcroppings and water courses.

   b. Grading should not result in flat planes or sharp angles at the intersection points with the natural terrain. Slopes shall be rounded and contoured to blend with existing topography.

c. Specific recommendations for site grading should be developed based on further geotechnical studies, including test borings and supplemental geophysical work.*

2. The following erosion control measures* apply to most circumstances and could be incorporated as conditions to individual project approval. It should be noted that the following measures represent a range of options and would not necessarily apply to every project parcel.

a. All engineered fill slopes should be seeded and/or planted as protection from concentrated surface flow. The appropriate species should be selected by the landscape architect, giving due consideration to plant hardiness, propagation and nutritive requirements, including watering demands.

b. Interim slope protection could be provided by straw punching or hydromulching. Similar protection is advisable, although not essential, on cut slopes as a precaution against progressive ravelling and rilling.

c. The crowns of all slopes should be rounded and compacted. All slopes exceeding 20 feet in height should be terraced at the midpoint as described below.

d. Interceptor drains should be installed no more than 4 feet behind the crown lines of all cut slopes greater than 5 feet in height. These drains should be paved with at least 3 inches of reinforced portland cement concrete gunite or rock-lined ditches under appropriated circumstances and should be founded at a minimum

* Recommended in the Geologic Report prepared by Lowry and Associates.

depth of 12 inches below lowest adjacent finished grade in undisturbed materials. The drains should have a minimum paved width of 30 inches, measured horizontally across the drain. A minimum gradient of 5 percent should be provided and the accumulated runoff directed toward other drains or lateral ditches designed to discharge the runoff at points well away from the excavation faces.

e. Where downdrains discharge onto slopes that are steeper than 10 percent, energy dissipation devices should be installed at the discharge ends. These devices could include retained rocks, lined stilling basins or level spreaders designed to disperse the runoff gradually across a flatter slope.

f. Adjacent to roadways, asphalt or portland cement concrete berms should be installed along the crown lines of engineered fill slopes greater than 5 feet in height to prevent excessive sheet runoff. Alternatively, rolled gutters paved and of the dimensions stated above may be formed along the crown lines, provided that the gradient is no less than -5 percent.

g. Collected runoff from roof drains and pavement surfaces should be directed toward appropriately sited drop inlets, scuppers or other drainage devices for disposal beyond the limits of the embankment faces.

h. For slopes greater than 20 feet in height, terracing will be necessary. Terraces should be at least 6 feet in width and should be paved with reinforced concrete, gunite, or rock lining not less than 3 inches in thickness or equivalent asphalt concrete paving. Terraced drains should have a minimum depth of 12 inches at the deepest point and a minimum paved width of 5 feet. Not less than 12 inches

of pavement should extend along the finished face of slope above the flow line. Terraced drains should be inclined into the face of finished slope at a minimum gradient of -2 percent and should be sloped to drain toward either hinge point at a minimum gradient of -5 percent. A single run of terrace drain should not be allowed to collect runoff from a tributary area exceeding 13,500 square feet (projected) without discharging into a downdrain.

i. To prevent deterioration of roadway subgrades, consider installing polyethylene sheeting. Energy dissipation devices such as rock-covered berms would be necessary at points of maximum sheet runoff.

3. Mine shafts less than 6 feet in diameter should be cleaned and bridged (see Geotechnical Report, page 33). Major excavations (including the Idaho No. 2 Calyx and Maslin Shaft) should also be bridged over with reinforced concrete (see Geotechnical Report, page 34).

B. VEGETATION AND WILDLIFE

Potential Impacts

There are three distinct vegetative areas within the project area that will experience unavoidable disruption due to site development. Each vegetative area has a specific tolerance level for change, as discussed below:

1. The riparian corridor along Wolf Creek has a very low tolerance for change, due to its sensitive location (along creek banks) and its dependency on fairly wet soils. This area will require special protection during and after construction to ensure preservation of the creek ecosystem.

2. The successional forest, which covers most of the site's slopes, has moderate tolerance for change. While this area can withstand greater disruption, it has high scenic value contributed by the dense stands of mature pine and fir trees.

3. Disturbed areas are those portions of the site that have been significantly disturbed by previous development and mining activities. They are mainly located on portions of the Robinson and Tom's Sierra Co. parcels. These areas have a high tolerance to change due to their existing disturbed condition.

There are no rare or endangered species known to inhabit the project site. However, site development will result in habitat loss for species currently residing on the project site. This displacement will cause some initial pressure on adjacent wildlife communities. However, as the "new" population (wildlife community) is absorbed, this pressure will decrease.

It should be noted that timber removed during the course of development may be subject to a Timberland Conversion permit and/or Timber Harvesting Plan. If the area proposed for timber removal is less than three acres, only a Timber Harvesting Plan would be required. If the area is greater than three acres, both a Timber Harvesting Plan and Timberland Conversion permit would be required.*

Mitigation Measures Incorporated Into The Specific Plan

1. The Plan establishes a Maintained Buffer Area of at least 100 feet wide abutting and paralleling the north, east and south sides of the site boundaries. The buffer area will be maintained in its present natural condition, thus preserving a portion of the site's biological resources.

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* The necessary forms can be obtained from the California Department of Forestry in Nevada City. Contact Eric Carr (916) 265-2603.

2. The Plan establishes a Wolf Creek Parkway which will protect and enhance the riparian vegetation and wildlife along the creek channel.

3. The Plan establishes landscape design criteria which emphasize extensive plantings of the native Ponderosa pine. Tree and undercover plantings will provide habitat for "new" populations of wildlife species.

Mitigation Measures Recommended By This EIR

1. Any tree over 8" in diameter at breast height above the ground should be preserved if possible.

2. Individual development applications should be accompanied by a letter from the California Department of Forestry (Nevada City office) indicating compliance with (or exemption from) forest regulations regarding the need for a Timberland Conversion permit and/or Timber Harvesting Plan.

Persons Consulted

1. Richard Wagner, California Department of Fish and Game, Grass Valley, California. Telephone conversation 6/27/83.

2. Dan Scatena, California Department of Forestry, Auburn, California. Telephone conversation 6/29/83.

3. David M. Burns, Unit Forester, California Department of Forestry Auburn, California. Telephone conversation 6/30/83.

C. NOISE

Existing Conditions

Noise on the site falls into two major categories. The western portion is dominated by the industrial activities on the Robinson parcel. The eastern portion is dominated by natural sounds (birds and wind). The primary source of off-site noise is automobile traffic along Idaho-Maryland and Brunswick Roads and aircraft on approach or take off from the Airport.

Potential Impacts

1. Noise Generated By On-Site Uses

Site development will alter the site's present noise characteristics. The most noticeable change will occur in the eastern portion of the site where sounds are now mostly natural in character. Site development will introduce urban noises associated with the proposed light industrial uses in Subarea SP-1A and the proposed residential uses in Subarea SP-1C.

The Specific Plan permits a wide range of light industrial and industrial uses including corporate offices, research and development firms, motel/conference center and professional business offices. Noise levels generated by these uses could vary considerably.

The area of greatest concern is the possibility that on-site uses (particularly industrial/light industrial) could adversely affect the exterior or interior noise environments of adjacent existing residences. Adverse impacts would be created if the State standards of 60 dB CNEL for exterior and 45 dB CNEL for interior noise environments were exceeded.

Potential noise impacts to these residences cannot be determined at this time because it is not known what uses will actually

locate within the Specific Plan area. This can be determined by site specific noise analyses, conducted in association with individual project applications.

Noise levels generated by residential development in Subarea SP-1C should not be of major concern. They would primarily consist of short-term, single event noises such as power saws and lawn mowers, as well as traffic noise generated by on-site residents.

2. Aircraft Noise

The Nevada County Airpark is located 3/4 mile east of the project site. There are two kinds of noise impacts associated with aircraft operations: average annual noise exposure (CNEL) for which there are definitive standards; and single event noise exposure for which there are no legally binding standards.

Noise standards for airports are promulgated by the California Division of Aeronautics. Acording to these standards,* 65 CNEL is an acceptable noise level to the average person residing near an airport. However, some people may be annoyed at levels less than 65 CNEL. Industrial/office uses are generally considered compatible with aircraft operations.

As shown on Figure 2-1, the Airpark's 60 CNEL contour penetrates the northeastern corner of Subarea 1A. Land uses locating in this area could be subject to average annual noise levels in excess of 60 CNEL but less than 65 CNEL, which is within accepted standards.

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* State of California Administrative Code, Title 4, Chapter 9. Subchapter 6, "Noise Insulation Standards".

Although the Airpark's 65 CNEL contour does not penetrate the site, employees or residents could be exposed to single event aircraft noise in excess of 65 CNEL. Such noise intrusions could be annoying to some people.

Mitigation Measures Incorporated Into The Specific Plan

1. The Specific Plan designates a 100 foot buffer area on the north, east and south sides of the project site. This will help protect adjacent existing and future residences from adverse noise levels generated by on-site uses (see Figure 3-1 and page 4-2).

2. The Specific Plan requires that activities located adjacent to existing or potential residences shall demonstrate that noise levels will not adversely affect adjacent neighborhoods (p. 4-9).

3. The Specific Plan requires maintenance of the following noise standards within the Plan boundaries (p. 4-9):

    - 70 dB CNEL for outdoor industrial noise environments
    - 65 dB CNEL for outdoor residential noise environments
    - 45 dB CNEL for indoor residential noise environments

4. The Plan requires an avigation or use restriction easement for those areas within the Future Non Precision Approach Surface. Mitigations (similar to those recommended by the Airport Master Plan) are recommended to ensure land use compatibility with airport operations.

Mitigation Measures Recommended By This EIR

1. An avigation easement could be required for residential areas exposed to aircraft noise levels in excess of 60 or 65 CNEL. Additional acoustical analysis would be required to determine which Specific Plan areas would be exposed to such levels.

D. AIR QUALITY

Existing Conditions

The site lies in the Mountain Counties Air Basin. Air quality monitoring in Nevada County is minimal. There are no monitoring stations near the Grass Valley area that would indicate local air quality in Grass Valley is good.* The County is classified as an Attainment District which means that they meet the State and Federal standards for the five major pollutants.** Most of the air pollution in the County comes from outside sources, primarily Sacramento Valley. The Nevada County Air Pollution Control District is the local air quality regulatory agency.

Potential Impacts

Site development would introduce three categories of air pollutants: short-term project construction pollutants; long-term point source pollutants (industries); and long-term mobile source pollutants (traffic).

Project construction would generate dust and emissions from heavy duty diesel-powered vehicles. It is estimated that 1.2 tons of suspended dust are emitted per acre of construction per month of activity. In addition, diesel fuel-powered equipment emits approximately 23.7 pounds of particulates, 34 pounds of sulfur oxides, 354 pounds of nitrogen oxides, 69.7 pounds of hydrocarbons, and 249 pounds of carbon monoxide per 1,000 gallons of fuel burned. Although most pollution standards should not be exceeded by the above amounts, the State 24-hour particulate standard of 100 micrograms per cubic meter could be exceeded locally during

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* Ron Earl, Assistant Air Pollution Control Officer

** Ozone, carbon monoxide, nitrogen oxides, sulphur dioxide and total suspended particulates.

periods without dispersing winds. However, this would be a short-term, localized impact and would not adversely alter overall air quality in Grass Valley.

Point source emissions could be generated by industrial uses locating within the Specific Plan area. Industrial air pollution impacts for the project must be discussed in general terms because the number and nature of specific industrial uses are not now known. Resulting air emissions cannot be determined until precise uses are known. As industrial uses are proposed, each would be subject to federal, state, and local rules and regulation.

The Nevada County Air Pollution Control District would evaluate individual applications for industrial uses to determine compliance with National Ambient Air Quality Standards and State Standards. They would also determine whether all emission limitations would be met. These emission limitations are of five general types:

1. Visible Emission Limitations: These regulations limit opacity of visible emissions. The New Source Performance Standards also include visible emission limitations.

2. Exhaust Concentration Limitations: These are specific maximum concentrations of pollutants; for example, sulfur compounds and particulate matter in exhaust streams.

3. Mass Limitations: These are maximum weight amounts of pollutants that can be released. These include new source performance standards for specific industrial processes and limitations on emissions of hazardous pollutants for which there are no National Ambient Air Quality Standards.

4. Other Emission Limitations: Specific industrial processes, such as organic liquid transfer and storage, solvent cleaning, and surface coating are required to meet standards designed to reduce atmospheric emissions.

5. Nuisance Limitations: Regardless of other limitations, the discharge of air contaminants which cause injury, detriment, nuisance, annoyance, or damage to persons, businesses or property is illegal.

Additionally, new sources defined as a source emitting more than 50 tons per year (or 1,000 pounds per day) of particulates (seasonal source); 1,000 pounds per day of carbon monoxide; or 250 pounds per day of any other pollutant for which there is a standard, must be constructed using Best Available Control Technology (BACT). Under current New Source Requirements an offset equal to 120 percent of the emissions would also be required for such sources within 15 miles of the new source. At distances greater than 15 miles of a new or modified source, air modelling must show a net air quality benefit.

Although the specific amounts and types of pollutants generated by any future industrial uses on the site are currently unknown, such uses would be carefully evaluated by the Nevada County Air Pollution Control District. The enforcement of emission limitations, BACT requirements, and offset requirements would ensure that future industrial development would not interfere with the achievement and maintenance of air quality standards.

Mobile source air quality impacts will be generated by project related traffic. Carbon monoxide and sulfur oxides are produced by automobile combustion. Secondary pollutants include ozone. Air quality impacts resulting from project traffic cannot be mitigated by this project. However, measures can be implemented which will partially offset potential impacts.

Mitigation Measures Incorporated Into The Specific Plan

The Specific Plan requires approval by the Nevada County Air Pollution Control District of industrial uses with potential for air pollution. The Plan does not specifically indicate measures for reducing auto-generated pollutants. However, the Plan does include residential development within the site which would help reduce the work-to-home commute. It also recommends incorporation of bus shelters and liberal street tree plantings (which will help filter out suspended particulates).

Mitigation Measures Recommended By This EIR

Limit emissions during construction by requiring the developers to:

a. Use watering dust control on equipment and work areas, especially during morning hours (stable atmospheric conditions) and during high wind.

b. Restrict vehicles and equipment to traveling along well-watered ingress/egress routes.

c. Require all dirt loads exiting the site to be well-watered after loading.

d. Restrict all trucks and vehicles within the site to a maximum of 15 miles per hour.

E. CIRCULATION AND ACCESS

This section of the EIR provides a detailed traffic analysis and addresses off-site circulation and access needs.

Existing Conditions

1. Roadways Serving The Project

Roadways serving the project area are Idaho-Maryland Road (along the north boundary), Brunswick Road (along the east boundary), and Whispering Pines Lane (running east-west through the project site). (Refer to Figure 2-2, p. 2-5.)

Idaho-Maryland Road is a level, narrow two lane roadway with sharp curves (which limit sight distances) and with few shoulder areas adjacent to the site and westerly to downtown Grass Valley. It connects to Freeway 49/20 in Grass Valley (northbound on and off ramps at Railroad Avenue, southbound on and off ramps at East Main Street). Idaho-Maryland Road is stop sign controlled on its approaches to Brunswick Road and East Main Street/Southbound Freeway on-off ramps. Observed speeds near this project area range from 35 to 50 mph. Turn lanes are not striped on any Idaho-Maryland Road intersection approach.

Brunswick Road is a well paved, high speed roadway (55 mph limit) adjacent to the project. It climbs a hill (north to south) starting southerly of the Idaho-Maryland Road intersection. A second southbound lane is provided for slower vehicles on this hill (starting just south of Idaho-Maryland Road and continuing to the crest of the hill). A single northbound lane is provided in the downhill direction. Left-turn lanes are provided on both approaches to Idaho-Maryland Road.

Safety problems currently exist on the southbound approach to Idaho-Maryland Road as vehicles slowing to make a right turn to westbound Idaho-Maryland Road sometimes come very close to being rear ended by vehicles starting to accelerate to go up the steep hill south of the intersection. In addition, eastbound vehicles on Idaho-Maryland Road turning right to go southbound on Brunswick Road require a long time to get up to speed on the uphill section. Southbound through traffic on Brunswick Road must often slow down behind these vehicles.

Brunswick Road extends northerly to an interchange with Freeway 49/20 in the Glenbrook commercial area. The signalized intersections in the Glenbrook area (Nevada City Highway, Maltman/south Brunswick on-off ramps, north Brunswick on-off ramps and Sutton Way) all experience various degrees of congestion because of high traffic volumes and their close proximity to each other.

Whispering Pines Lane is a narrow roadway running east-west through the site. At the time of Specific Plan preparation (1983) it is paved from Brunswick Road westerly to about half way through the project area, beyond this point it is a gravel road providing access to the Robinson parcel. A church and two residential units are currently served by Whispering Pines Lane. No turn lanes are provided on the Brunswick Road approaches to Whispering Pines Lane.

2. Capacity Analysis Of These Roadways

Some 2,150 employees will work in the Whispering Pines Corporate Community when it is fully developed (see Section 6.2.D - Description of Development Characteristics, (p. 6-3). These employees plus visitors in this project will generate about

6,800 daily trips to and from the establishments in this area. Section 4 of this analysis indicates the resulting traffic volumes on nearby roadways providing access to the area.

Current* p.m. peak hour volumes on local roads are shown on Figure 2-2, p. 2-5.

Capacity analysis was conducted for the current p.m. peak hour volumes at all major intersections near the project. Results of this analysis are shown in Figure 2-2. Intersection capacity is graded by a standard called Level of Service (LOS). The LOS scale ranges from Level A, indicating the least intersection congestion and delay, to Level F, indicating complete congestion and significant delay to drivers. LOS definitions are given in Appendix E.

All intersections along Idaho-Maryland Road are currently operating at a good Level of Service (LOS) A, with the exception of the Idaho-Maryland/E. Main/South Brunswick/Freeway on-off ramp intersection which is operating at a good LOS B.

The Brunswick Road intersections in the Glenbrook area currently have p.m. peak hour operation ranging from LOS B (Nevada City Highway, Freeway 49 northbound on-off ramp) to LOS C (Freeway 49 southbound on-off ramp/Maltman) to LOS E/F (Sutton Way). However, due to the close proximity of all four intersections, occasionally traffic stopped at one intersection will back up through another intersection, producing intersection operation worse than projected by the LOS calculations.

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* April 4, 1983 count.

3. Future Road Extensions In The Vicinity

Certain roadway extensions that would impact traffic flow near the project site are proposed in the Circulation Element of the Grass Valley General Plan. These extensions are shown in Figure 2.4.

Briefly, Sutton Way is planned to extend south for a connection with Idaho-Maryland Road near the Wolf Creek Bridge. Another connector is shown on the General Plan between Idaho-Maryland Road and Bennett Street. This connection would run in the vicinity of the project area's western boundary. Whispering Pines Lane would need to be extended westerly through the project area to intersect this future roadway south of Idaho-Maryland Road in order to provide access from the west into the Whispering Pines Corporate Community.

Potential Impacts

1. Project Traffic Volumes and Levels of Service

The proposed Whispering Pines development is projected to generate about 6,800 daily two-way trips with 100 inbound and 920 outbound trips during the p.m. peak travel hour. A.M. peak hour generation would be about the same although reversed in direction. A midday peak (noon to 1 P.M.) would also be likely (although smaller than the commute peaks).

Table 6-6 shows existing and with-project peak hour volumes and percent change. Table 6-7 shows existing and with-project Levels of Service for major intersections during P.M. peak hour. Figure 2-2 illustrates the distribution of P.M. peak hour volumes on local roadways.

Table 6-6

EXISTING AND WITH PROJECT P.M. PEAK HOUR VOLUMES

Roadway	Existing Volumes (2 Way)	Existing + Project Volumes (2 Way)	% Change (2 Way)	Existing 2-Way Capacity Per Hour
Idaho-Maryland:				
- west of the proposed I-M/East Bennett connector	290	910	214%	1,200
- east of the proposed I-M/East Bennett connector	260	315	21%	"
Brunswick Road:				
- north of Whispering Pines Lane	610	855	40%	2,000
- south of Whispering Pines Lane	660	760	15%	"
Fwy. 20/49:				
- north of I-M Interchange	2,500	2,815	13%	1,600* per lane per hour
- south of I-M Interchange	2,200	2,305	5%	"
- north of Brunswick Interchange	2,200	2,350	7%	"
Hwy. 174 near Brunswick	770	840	9%	1,300

* Volume is per lane, per hour. Freeway has four lanes.

Table 6-7

EXISTING AND WITH PROJECT LEVELS OF SERVICE

Intersection	Existing Level of Service	Existing and Project Traffic Level of Service
E. Main/I-M/Fwy. 49:		
- northbound on/off ramp	A	B
- southbound on/off ramp	B	D/E
I-M/Brunswick	A	A
Brunswick/Sutton Way	E/F	F
Brunswick/Fwy. 49		
- northbound on/off ramps	B	C
- southbound on/off ramps	C	C/D
Brunswick/Nevada City Hwy.	B	B

Project traffic is projected to distribute to the existing street system in the following manner:

Freeway 49 South	30%
Freeway 49 North	15%
Brunswick Road South	10%
Brunswick Road North	20%
E. Main Street (to Downtown)	10%
E. Main St. (to Hughes Road)	10%
Idaho-Maryland Road East	5%
	100%

Figure 2-2 shows p.m. peak hour traffic distributed to the existing street network. About 65 percent of the site's traffic should use the Idaho-Maryland access (675 peak hour vehicles) with the remaining 35 percent of site traffic using the Whispering Pines Lane access to Brunswick Road (345 vehicles). This assumes completion of the link between Whispering Pines Lane and Idaho-Maryland Road.

Idaho-Maryland Road between the site access and E. Main Street will receive the greatest impact due to project traffic. Existing peak hour volumes would be increased by 214 percent (from 290 to 910 vehicles). Idaho-Maryland Road between the site access and Brunswick Road would have its existing traffic increased by 17 percent. Although the sum of project and existing traffic would be less than the consultant's estimated capacity of Idaho-Maryland Road (910 vehicles versus 1,200 two-way vehicles per hour capacity) the project's added volumes would add to the existing traffic safety problems caused by the road's poor alignment, blind curves, lack of shoulders in most locations, and lack of turn lanes to driveways.

Project traffic would increase existing Brunswick Road volumes by 40 percent north of the Whispering Pines Lane access (from 610 to 855 peak hour vehicles) and by 15 percent south of this point (from 660 to 760 peak hour vehicles). The increased volumes would be well within the capacity of Brunswick Road (estimated at 2,000 vehicles per hour).

Project traffic would have a significant impact on some of the major intersections near the site (see Figure 2-2). The Idaho-Maryland Road/Freeway 49 northbound on-off ramp intersection would change from a high LOS A to a low LOS B operation during the p.m. peak travel hour while the E. Main Street/Idaho-Maryland Road/Freeway 49 southbound on-off ramp

intersection would change from a high LOS B to a LOS D/E operation during the same time period. Although the Idaho-Maryland Road/Freeway 49 northbound on-off ramp intersection would still be operating at an acceptable LOS with project traffic, the increased volumes would produce increased traffic safety problems on the westbound intersection approach due to the lack of a left turn lane (i.e. a great chance for rear end accidents between vehicles slowing to turn and through traffic in the same lane). The impact of project traffic at the Idaho-Maryland Road/Brunswick Road intersection, while significant, would not change the LOS A designation.

The E. Main/Idaho-Maryland Road/Freeway on-off ramp intersection now meets warrants for signalization with traffic backing up on the E. Main approaches during peak traffic times of the day. The addition of project traffic would add significantly to these backups (with stop sign control at the intersection) due to the extra vehicles. Traffic safety problems would likely increase as drivers became impatient to get through the intersection and wouldn't wait for their proper time to proceed through the intersection.

In the Glenbrook area, project traffic would reduce p.m. peak hour intersection operation by about half a service level at the Brunswick Road intersections with both Sutton Way and the Freeway 49 northbound on-off ramps (from LOS E/F to LOS F and from a poor LOS B to a good LOS C, respectively). The impact of peak project traffic would be less on the west side of the freeway at the Brunswick Road intersections with both the Freeway 49 southbound on-off ramps and at the Nevada City Highway (from a poor LOS C to LOS C/D and remaining at a good LOS B, respectively).

Freeway 20/49 would experience about a 13 percent growth in peak hour traffic due to the project south of the Idaho-Maryland Road interchange (from 2,500 to 2,815 vehicles). North of this interchange there would be about a 5 percent growth in peak hour traffic (a 7 percent increase north of the Brunswick interchange). The Freeway and its ramps would continue to operate well under capacity. Highway 174 near its intersection with Brunswick Road could expect to receive a 10 percent increase in existing volumes (770 to 840 peak hour vehicles) due to the project. This increase, too, would be well within the available capacity of the highway.

Bennett Road between Brunswick and E. Main should receive little or no project traffic as quicker, more direct routes exist for project traffic to travel to/from central Grass Valley. Bennett Street east of Brunswick would only be impacted by project traffic if workers would move into houses in this area.

2. On-Site Traffic

All access to the site would be via Whispering Pines Lane. This would eliminate the need for intersections on Idaho-Maryland Road where existing curves prevent adequate sight distance in many locations. Whispering Pines Lane and the other on-site roadways connecting to Whispering Pines Lane* have adequate curving alignments to slow traffic to 30 mile per hour speeds or less.

3. On-Site Parking and Storage Requirements

Project development will generate demand for on-site parking and storage facilities. The Plan contains development standards which address provision of adequate facilities. These standards are outlined in the mitigation section under "Mitigation Measures Incorporated into the Specific Plan."

* See Figure 3-1: Comprehensive Plan Map.

4. Safety

Site traffic access at the Whispering Pines/Brunswick Road access would produce traffic safety problems with the existing geometrics of Brunswick Road. Table 6-8 summarizes the major safety concerns.

Table 6-8

SAFETY CONCERNS

Location	Potential Safety Problem	Cause
Westbound approach to the I-M/Fwy. 49 on/off ramp intersection	Increase in rear end accidents	Lack of left turn lane Large traffic volumes
E. Main/I-M Road/ Fwy 49 on/off ramp intersection	Increase in traffic backups - unorderly flow of traffic through intersection	Lack of traffic signals
Northbound traffic on Brunswick turning onto Whispering Pines Lane	High speed rear end accidents	Lack of northbound turn land
Eastbound traffic turning left from Whispering Pines Lane onto Brunswick Road	"	Lack of northbound acceleration lanes

Northbound traffic on Brunswick Road slowing or stopping to turn to Whispering Pines Lane in the single downhill lane would produce a major traffic safety problem (potential rear end accidents with high speed downhill through traffic). In addition, vehicles turning left from Whispering Pines Lane to the single northbound lane on Brunswick Road would take several seconds or more to get travelling the same speed as downhill vehicles. The potential for accidents without turn or acceleration lanes in the northbound direction would be even greater for trucks.

The new access road to Idaho-Maryland Road from the project would have much higher volumes (400 vehicles per hour higher) than Idaho-Maryland to the east of the access road. Minor safety problems could arise due to the high number of vehicles turning from the access road to Idaho-Maryland Road where, because of the low volumes on this road, speeds could range up to 45 miles per hour.

Internal roadways would have grades of 15 percent or less, which would be adequate for all weather conditions except snow and ice where, even with no gradient, there would be traffic safety problems.

5. Future Roadway Development

The potential exists for future area roadway extensions* that would:

- Connect Idaho-Maryland Road to Bennett Street near the western project boundary; and

- Connect Idaho-Maryland Road to Sutton Way and Dorsey Drive north of the site.

The connection from Idaho-Maryland Road to Bennett Street only would reduce project and existing volumes travelling on E. Main through the E. Main/Idaho-Maryland Road/Freeway 49 southbound on-off ramp intersection and along Idaho-Maryland Road west of the site. Whispering Pines Lane and Idaho-Maryland Road adjacent to the site would experience increased through traffic.

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* Per the Circulation Section of the Grass Valley General Plan Update, WPM Planning Team, 1982.

Implementation at the Sutton Way/Dorsey Drive connection to Idaho-Maryland Road only would likely divert the same amount or more Glenbrook area traffic to Idaho-Maryland Road than project and existing Idaho-Maryland traffic will divert up to the Glenbrook area or Dorsey Drive. The completion of roadway connections all the way from the Glenbrook area to Bennett Street would serve as an alternate and parallel travel route to the freeway and E. Main Street that would reduce volumes on E. Main Street/Nevada City Highway and around the Brunswick Road and Idaho-Maryland Road interchanges. Volumes on Bennett Road near E. Main would be increased significantly.

6. Cumulative Area Buildout

The Grass Valley General Plan Traffic Circulation section* shows the following peak hour area buildout volumes on the roads near the project site. Existing-plus-project volumes and existing two-way capacities are added for comparison purposes.

Table 6-9

CUMULATIVE P.M. PEAK HOUR VOLUMES (2 WAYS)

Road	Existing Volumes	Existing+ Whispering Pines [1] Volumes	Buildout Volume[2]	Existing Two-Way Capacity Per Hour
Idaho-Maryland Road (east of Freeway 49)	290	910	1,100	1,200
Brunswick Road (south of Idaho-Maryland Road)	660	760	1,000	2,000
Brunswick Road (north of Idaho-Maryland Road)	610	850	1,700	2,000

1 With existing roadway system.

2 Per the 1982 General Plan Update Circulation System Projections with buildout of the Grass Valley area and with fully developed areawide roadway system.

* WPM Planning Team, 1982.

Idaho-Maryland Road would come close to its projected area buildout traffic volumes. However, volumes at the three locations shown would be continuously increasing or decreasing as new roadway connections and developments are built in the area. It would be many years in the future before a steady state condition is reached.

Mitigation Measures Incorporated Into The Specific Plan

1. The Plan stipulates types of access allowed, roadway rights-of-way, cross sections for interior roadways, special parking requirements, and permit requirements (pp. 4-3 through 4-6 and 4-12).

Mitigation Measures Recommended By This EIR

The following measures are recommended to reduce off-site traffic congestion and subsequent safety hazards. The project developers should be required to fund all improvements directly related to site development. They should also contribute a proportional share of the costs associated with cumulative roadway improvements. Traffic mitigation fees are discussed under Item 4 of this section.

1. Off-Site

   a. An 8-phase signal should be placed at the E. Main/Idaho-Maryland Road/Freeway 49 on-off ramp intersection. In conjunction with the signal, the Idaho-Maryland intersection approach should be widened* to provide separate left, through, and right turn lanes. These improvements should bring p.m. peak hour intersection operation from a LOS D/E to a good LOS C (with project traffic).

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* Per the Caltrans Highway Design Manual.

b. A left-turn lane should be striped or constructed on the westbound Idaho-Maryland Road approach to Railroad Avenue and the Freeway 49 northbound on ramp. Widening may be needed on the north side of Idaho-Maryland Road to provide sufficient room for both the new left-turn lane and a full width through traffic lane. This turn lane should be provided within the next year as part of the Idaho-Maryland assessment district.

c. In lieu of any major improvements along Idaho-Maryland Road adjacent to the project area, Idaho-Maryland Road from the main site access to the Freeway 49 northbound on-off ramp intersection should be realigned where needed to provide adequate stopping sight distance and with minimum 800-foot horizontal radii for curves. Unnecessary vertical curves should also be eliminated. Minimum 4-foot shoulders should also be constructed. (Partial realignment and widening in this area is now under construction in certain areas on the north side of the road as part of the Idaho-Maryland assessment district.)

d. A second southbound lane should be provided on Brunswick Road starting north of the Idaho-Maryland Road intersection and continuing through and south of this intersection to connect to the existing second southbound (truck climbing) lane now in place.

e. One emergency turnout (long enough for a truck) should be provided in each direction along the project's Idaho-Maryland Road frontage.

2. Site Access

a. A left-turn lane should be provided on the Brunswick Road approach to Whispering Pines Lane, and a right and left turn lane should be provided on the Idaho-Maryland

Road approaches to the main site access road. The northbound downhill Brunswick Road left-turn lane to Whispering Pines Lane whould be designed to State highway standards to provide a safe deceleration area for left-turning vehicles. Provision for extra stopping distance due to the downhill grade should be made. Large curve radii should be provided at the Brunswick/Whispering Pines entrance to allow quick right-turn access by vehicles in the southbound truck climbing lane.

b. An acceleration or duck-in lane should be provided on north-bound Brunswick Road for left-turn vehicles coming from Whispering Pines Lane. This would allow separation of the fast moving downhill through traffic and the slower moving vehicles just having turned.

c. An 8 foot wide shoulder should be provided on the east (downhill) shoulder of Brunswick Road in the area of the left-turn deceleration and acceleration lanes at the Whispering Pines Road intersection.

d. A three-way stop should be employed at the Idaho-Maryland Road intersection with the main site access road.

e. An access roadway should be provided from the western site boundary to Idaho-Maryland Road. This would include a new bridge over the creek near Idaho-Maryland Road. This bridge should be located in the vicinity of the future north-south connector between Idaho-Maryland Road and Bennett Road and should be wide enough to accommodate turn lanes on the northbound approach to Idaho-Maryland Road. As other projects served by this bridge and access road are built, there should be a partial reimbursement of these costs to the Whispering Pines project. Should the developer not wish to provide this access to Idaho-Maryland Road (meaning all project traffic would access

the site via the Brunswick Road access), then Idaho-Maryland Road between Brunswick and Freeway 20/49 should be realigned to the standards set forth in off-site Measure Ic.

3. On-Site

a. Storage (parking) areas should be provided on-site for all vehicles (autos and trucks) associated with each business.

b. Left-turn lanes should be provided on Whispering Pines Lane at each internal intersection approach.

4. Off-Site Mitigation Fees

Two potential methods can be considered for determining the off-site roadway mitigation fees to be collected from the Whispering Pines project.

a. Use the off-site development fee schedule used by Nevada County as set forth in the 1980 Regional Transportation Plan. This schedule, which would collect a certain dollar amount for each code-required on-site parking space, has been developed over the last four years and has been upheld in court. To date, County staff* considers this method to be working well.

b. Assume the Whispering Pines development will be the last one constructed in Grass Valley and have it provide all roadway improvements needed to make the local roadway system (significantly affected by its traffic) operate safely and at acceptable levels of service. These improvements would be:

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* Steve Borrum

- E. Main/Idaho-Maryland intersection - signals and widening on the Idaho-Maryland approach.

- Northbound Brunswick Road left-turn acceleration and deceleration lanes at the Whispering Pines intersection.

- Access road (and bridge) connecting the western project boundary with Idaho-Maryland Road plus realignment (and improving sight distances) on Idaho-Maryland Road between this access and the Freeway 49 interchange; or if no western access connection to Idaho-Maryland Road, realignment (and improving sight distances) on Idaho-Maryland Road between Brunswick Road and the Freeway 49 interchange.

- One turnout in each direction along the project's Idaho-Maryland Road frontage.

- Turn lanes at the Idaho-Maryland/access road intersection plus a three-way stop.

- Extension of the southbound Brunswick Road truck climbing lane to the north of the Idaho-Maryland Road intersection.

It is recommended that any other type of cost allocation not be considered due to the time and effort required to fine-tune such methodology (i.e. use what someone else has found to be suitable).

F. WATER

Potential Impacts

There are three significant impact areas:

1. The Cascade Canal, which supplies raw water to the Loma Rica water treatment plant* is near capacity and no funds are earmarked for improvements.

   The extent of this problem is not clear at this time. During summer 1983 repairs will be made to the canal which may alleviate the capacity problem, at least for the short term. The District is currently seeking alternative funding mechanisms for future improvements to the canal which could cost $7 million.

2. A portion of the site (see Figure 2-3) is outside the Nevada Irrigation District boundaries and would need to be annexed before it could be serviced. However, the District currently has a moritorium on annexations. The moritorium will likely remain in effect until the County and District reach agreement on allocation of property taxes to the District after incorporation of parcels into District boundaries.

   If the site were annexed to the District, existing water lines would need to be extended. The Loma Rica Line under Brunswick Road would be extended north to the project where a pressure reducer and lines would continue through most of the site. The District would like to continue the Brunswick line a mile beyond the site to connect to an existing Elizabeth L. George system line at Town Talk Road. It is assumed the developers would be required to fund all necessary improvements to the Whispering Pines site.

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* This plant would provide domestic water to the site. The plant has adequate treatment capacity.

3. It is District policy not to serve developments with lots greater than two acres. The District holds this policy because larger parcels do not generate enough revenue to meet maintenance, repair and eventual replacement costs of the extensive line systems needed to serve them. The Specific Plan would allow lots over 2 acres.

   There are several alternatives to this problem:

   a. Increase the number of lots per length of street (and water line).

   b. Use a master meter at the entrance to the area, with the internal lines privately maintained. The District has used this approach successfully with one-ownership industrial parks, but isn't sure how it would work with multiple ownerships.

   c. Create a private well system. This does not appear feasible, given the terrain, and probably could not provide sustained fire flows.

   d. Discuss with the Engineering Committee of the NID board the possibility of revising its service policy. An obvious resolution is to increase water rates for low density areas to a point where they do generate sufficient revenues to meet costs. Currently rates are uniform throughout the district, while service costs vary greatly.

Mitigation Measures Incorporated Into The Specific Plan

The Plan contains several policies regarding the assurance of adequate public services:

- Prior to approval of any final parcel map, subdivision map, site development plan or grading plan, affected agencies shall certify that a proposed development can be served adequately (p. 4-12).

- Standards and criteria are specific for provision of public services including fiscal analysis and adequately sized infrastructure for site and area growth (p. 4-6, 4-7).

These provisions are intended to prevent premature approval of development proposals which cannot be adequately served by local public service districts and agencies.

Mitigation Measures Recommended By This EIR

1. The Nevada Irrigation District should formulate, as soon as possible, a workable fiscal program to fund anticipated improvements to Cascade Canal. A joint City/County/Agency committee could be established to discuss individual and cumulative municipal water needs.

Persons Consulted

1. Timothy McCall, Assoicate Engineer, NID.
2. James McGarva, Fire Marshal, Grass Valley.
3. Robert Singleton, Chief Engineer, NID.

G. SEWER

Potential Impacts

Capacity of the treatment plant is the equivalent of 10,300 population; about 7,000 are now served. If all potential developments within the City and Glenbrook district occurred,

capacity would be exceeded. Major plant improvements would be required to accommodate projected Year 2000 service population of 15,700. To date the City has followed a "first come, first served" policy.

Sewage flows generated by the project are estimated at 94,752 gallons per day.* Translated to population equivalents**, the project would be the equivalent of 1,488 population. Estimates by the City of available capacity are based on population equivalents, but allow for some non-residential uses. Thus the actual impact of the project on remaining capacity is somewhat less than its calculated population equivalent.

Several programs to increase treatment capacity are underway:

1. Capacity could be increased to 12,000 (population equivalent) using state/federal grants for which the City has high priority.

2. Improvements to correct existing inflow/infiltration problems during wet weather are underway as funds become available. This would further increase capacity to 13,500 (population equivalent).

Mitigation Measures Incorporated Into The Specific Plan

The Specific Plan requires certification by an affected agency that adequate service can be provided to a proposed development (p. 4-12).

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* Based on 960 gallons per net acre per day.

** The City determined the average wet weather flow from a single family dwelling is at 191 gpd. The project is estimated to generate 94,752 gpd of sewage. This translates to an equivalent of 496 dwelling units or 1,488 population (3 persons per unit).

MITIGATION MEASURES RECOMMENDED BY THIS EIR

1. The most feasible measure to increase capacities is completion of the inflow/infiltration program. This program could cost $1,000,000. To expedite work, the City could consider using monies from two other sources: sewer impact fees and the sewer portion of annexation fees.

   Sewer impact fees are based on flows. Using a "miscellaneous use" category fee of $968 per 300 gpd, the project could generate $305,733.* Total annexation fees are calculated at $223,980.** Thus the project would generate a combined total of $529,713 for sewer improvements projects. At least $78,293 (35% of the annexation fee) would be paid immediately upon annexation with the balance to be paid in accord with an annexation agreement between the owners and the City with the balance to be paid in accordance with an annexation agreement between the owner and the City.

Persons Consulted

1. Kenneth Baker, Project Engineer.
2. Thomas Leland, City Engineer, Grass Valley.
3. William Roberts, City Planner, Grass Valley.

H. DRAINAGE

Potential Impacts

The impervious surfaces added by the project will increase both the amount and rate of runoff, which could exacerbate downstream flooding. Also, as the plan is presently proposed, the natural

* 94,752 gpd (estimated project flows) x $968 per 300 gpd - $305,733.

** 124 project acres within existing service area boundaries x $1,168 per acre = $144,832. 30.29 project acres outside existing service area boundaries x $2,613 = $79,148.

drainage pattern for a portion of the site would be altered. Drainage naturally flowing into the South Fork Wolf Creek would be diverted to Wolf Creek.

The City Engineer has stated he would not approve a plan that changes natural runoff patterns which would leave the City potentially liable for any related problems. While it is possible to convey the natural drainage to South Fork, drainage easements would have to be obtained from adjacent property owners.

Mitigation Measures Incorporated Into The Specific Plan

The Specific Plan requires that no drainage can be transferred from one watershed to another (p. 4-7).

Mitigation Measures Recommended By This EIR

1. On-Site

   a. If feasible, the City could require on-site detention ponds. They might take the form of hillside berms, combined with open space areas although this would be difficult in this area with its heavy rainfall.

   b. Development in the flood plain should be prohibited. This applies primarily to a portion of the Robinson parcel adjacent to Wolf Creek.

2. Off-Site

   a. The City should initiate a feasibility study, either restricted to Wolf Creek upstream from the freeway culvert or covering the entire watershed, to determine

what flood control measures are cost-effective. Fees to finance any such measures can be imposed at the building permit stage. County cooperation will be essential.

b. Alternatively, the City should request to the Board of Supervisors that a joint program of levying such fees, either directly or via the formation of a flood control zone, be initiated to include the watershed outside the City.

c. The City should consider whether a combination of improvements in the Idaho-Maryland Road/Wolf Creek corridor can serve several purposes. Improvements could include raising the lower sections of the road, modifying the creek to increase its capacity, and adding a bike path and possible picnic areas to create a parkway.

Persons Consulted

1. Pat Norman, County Planning Department.
2. Thomas Leland, Grass Valley City Engineer.
3. Kenneth Baker, Project Engineer.

I. FIRE PROTECTION

Potential Impacts

1. Response Distance

The site is currently served by the Gold Flat (75%) and Ophir Hill (25%) Fire Districts. Station locations range from 2.2 to 4.3 miles from the site, which exceeds the desired response distance of 1.5 miles. Upon annexation the site would be protected by the City. The nearest stations are 2.3, 2.9, and 2.0 miles from the site which still exceeds the desired response distance.

2. Wildland Fires

The site lies within a Wildland Fire Area as designated by the California Department of Forestry. Because of the site's heavy underbrush and vegetative cover, it would be susceptible to wildland fires. There have been several such fires along Idaho-Maryland Road in addition to the structural fire on the Church of God parcel (which is on the project site).

The City department is not equipped to handle large brush fires, particularly in areas with poor vehicular access. The City currently maintains a mutual aid agreement with CDF for this purpose. However, as land is annexed into the City, the responsibility for fighting wildland fires would shift from the CDF to the City. Currently CDF bears the cost of responding to wildland fires but in the future it is conceivable they would charge the City for specific firefighting requests, over and above normal mutual aid.

3. Fire Flows

Provision of 10" and 12" looped lines on the site would produce about 2,500 gpm, which in most cases can meet fire flow requirements depending upon building construction setbacks and other factors such as sprinklers, etc. The 12" stub that will be installed to the Robinson parcel* will be extended to the Whispering Pine Lane extension which originates from the Loma Rica system. An emergency inter-tie with pressure reducers would connect the two systems on site.

The Cascade Canal is the raw water source to the site for firefighting purposes via Elizabeth L. George and Loma Rica systems. There is currently adequate capacity to serve the site. However, the canal is nearing capacity and will require costly improvements to expand its capacity.

* A new assessment district has been formed to provide sewer, water, drainage and road improvements in the Sutton Way/Idaho-Maryland Road area.

4. District Administration

Annexation of the site into the City will slightly reduce the present tax base of existing County fire districts.

5. Cumulative Service Impacts

Buildout of Grass Valley's sphere of influence would result in the loss of substantial territory for the Ophir Hill Fire District. However, the areas it would lose due to City annexations (Grandview Terrace and along East Bennett Street) are actually closer to existing City stations. Thus, service could be slightly improved. While the District would not lose any of its stations, the Union Hill station would be left with a bifurcated response area. However, the southern and eastern portions of the District will remain intact.

Upon buildout, Gold Flat Fire District's northern response area would consist of Gold Flat (which lies in Nevada City's sphere of influence) a small area along Ridge Road and another along Banner Ridge Road. The Gold Flat Station which serves this area will lose a substantial tax base. Conversely the City will be required to extend protection and locate a new station. Its large eastern area (Loma Rica/Idaho-Maryland/ Banner Ridge area) would be left intact.

Mitigation Measures Incorporated Into The Specific Plan

1. The Specific Plan requires provision of adequate fire protection service prior to any individual project approval.

2. The Plan incorporates several measures to reduce fire hazards;

   a. Preparation of a fire protection plan.

   b. Clearing brush.

   c. Creation of fuelbreaks and firebreaks.

   d. Periodic inspection of the site by the City Fire Chief.

   e. Sufficient building spacing.

   f. Internal fire prevention measures such as fire sprinklers and thermopane glass (pp. 4-7 to 4-9).

   g. Storage of flammable or explosive materials in a manner approved by the Fire Chief (p. 4-10).

Mitigation Measures Recommended By This EIR

1. To improve fire response time implement one or more of these measures:

   a. Construct the proposed north-south link* between Idaho-Maryland Road and East Bennett Street and extend Whispering Pines Lane to the connector. This would shorten the response distance from the City's downtown station (East Main) to 1.4 miles, which is within the desired response distance.

   b. Extend Dorsey Drive/Sutton Way to Idaho-Maryland. This would provide almost standard response distance to the site from the City's temporary station (Shaws Hill) on Nevada City Highway. This station could be moved or a new one constructed to attain standard response time.

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* This line is shown on the 1982 Grass Valley General Plan Land Use Map.

c. The 1982 Grass Valley General Plan shows a future eastern fire station in the vicinity of the Sutton Way/ Idaho-Maryland/Brunswick extension. A portion of anticipated capital costs could be allocated to the Whispering Pines project.* Revenues generated by the project could be allocated to cover anticipated proportional costs for a new station.

2. To reduce impacts to districts resulting from City annexations:

   a. Leave City annexed lands in the County Fire Districts. This has generally proven unworkable due to fragmentation of jurisdictions.

   b. Consolidate all fire districts (or all districts except for the two city departments) into a rural-fire department. Although this would optimize firefighting resources, most individual entities oppose consolidation due to the relation between volunteer service and local community identity.

   c. As an alternative to "b", the cities and Fire Districts could establish a professional county-wide fire protection coordinator leaving the volunteer companies; but not the districts, intact.

Persons Consulted

1. John Straka, Fire Chief, Grass Valley.
2. Jerry Tassone, Fire Chief, Ophir Hill Fire District.
3. Vern Canon, Fire Marshal, Gold Flat Fire District.
4. Charles Jakobs, Ranger, California Department of Forestry, Grass Valley.

* Assuming capital costs of $250,000 of the fire station, spread out over 20 years, the annual set-aside required would be $12,500. The project constitutes about 20 percent of the future station's response area, so $2,500 annually could be attributed to the project.

J. POLICE PROTECTION

Potential Impacts

Project development will require police protection for two areas-roadways and on-site structures.

The California Highway Patrol currently patrols Idaho-Maryland and Brunswick Roads. As a result of project development, traffic volumes will increase by 300 percent. Existing deficiencies in the road's configuration will add to traffic safety problems and the need for more frequent patrolling and response calls. Construction and occupation of on-site buildings will create potential for break-ins, car thefts, vandalism, etc.

Because this is the first industrial/office district of this scale in the western county, there is little experience to draw upon in terms of additional manpower required to service the project. Based on experience with other industrial parks, it is estimated that 1 additional patrol officer would be required to serve the project at buildout. This translates to about $40,000 annually including salary, vehicle and supervision.

Mitigation Measures Incorporated Into The Specific Plan

The Specific Plan requires provision of adequate service (p. 4-11).

Mitigation Measures Recommended By This EIR

1. The City could require, as conditions to approval of individual projects within the Specific Plan, measures to minimize break-ins such as:
    - fencing around parking lots;
    - night-time security lighting;
    - secured doors and windows; and
    - building entrances visible to patrol cars.

2. The City should work closely with the County Sheriff's Department and CHP to minimize potential police problems. All development plans should be reviewed and approved by the respective police protection agencies.

Persons Consulted

1. Melvin Mauser, Police Chief, City of Grass Valley.

K. OTHER PUBLIC SERVICES

Potential Impacts

1. Schools

The project will not directly impact local schools unless residential development provided for the church parcel is pursued. That parcel is in the Grass Valley Elementary School District.

2. Toxic Waste

The County Health Department raised concerns about methods for handling and disposing of industrial or chemical wastes. It is not known at this time whether such materials will be used on-site.

3. Solid Waste Disposal

Solid waste generated by site development would be disposed of at the County's McCourtney Road Landfill. It has capacity for 7-10 years. The County is currently studying several alternatives for sites for a new landfill facility.

Mitigation Measures Incorporated Into The Specific Plan

1. The Plan does not address schools or solid waste.

2. The Plan requires formulation of hazardous materials management plans by individual developments and recommends preparation and adoption of a hazardous materials storage and handling ordinance by the City of Grass Valley.

Mitigation Measures Recommended By This EIR

1. The City and school districts could consider a school mitigation fee similar to that employed by the County as a way to generate funds for future school facilities.

2. The City of Grass Valley or the County of Nevada could establish a recycling program to help offset future solid waste disposal loads. Pickups could coincide with the regular disposal schedule. The County of Marin has recently instituted such a schedule for recycled materials in several local cities and is receiving favorable response.

L. CULTURAL RESOURCES

An archeological survey of the project site was performed in May 1983 by the Archeological Study Center located in the Department of Anthropology at California State University, Sacramento.* The report contains a complete discussion of the project site and vicinity ethnographic and historical background. The following paragraphs are based on the study's findings and recommendations.

Findings

The archeological study found no prehistoric remains. Several features of historic interest were identified but only three qualify as significant:

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* A complete copy of the study is available for review at the City of Grass Valley Planning Department.

1. Mine Related Buildings

There are several mine buildings located in the western portion of the project site (in the vicinity of the Idaho Shaft) that were associated with the operation of the Idaho-Maryland Mines. These buildings may be historically significant given the recognized historical significance of the Idaho-Maryland Mines. The mines are associated with a specific aspect (the development of quartz mining) important to the history of Grass Valley and the State of California.

2. Idaho Shaft Headframe

A portion of the headframe which marks the location of the Idaho Shaft is located on the project site. The study recommends its preservation although it does not qualify for national or State historical registers (not old enough).

3. "Round Hole" Area

Located in the eastern portion of the site, this area was the site of the first use of an "in hole" boring machine. A number of large cores from the "Round Hole" remain on the site. The study recommends their preservation.

Potential Impacts

Site development would likely result in the demolition of all three historic features. It could be possible to incorporate the headframe into a project design but it is a fairly large structure and may not lend itself to such treatment.

Mitigation Measures Incorporated Into The Specific Plan

The Plan does not address preservation of historic features.

Mitigation Measures Recommended By This EIR*

1. Prior to any project construction on the Robinson parcel, a qualified architectural historian should be retained by the developer to determine the precise historical significance of the standing mine buildings. A statement of findings and recommendations should be prepared and presented to the City prior to approval of development plans.

2. The City should consult with staff at Empire Mine State Park to determine if and how the headframe should be preserved. If it is determined not to preserve it, the Archeological Study Center should be notified so they can pictorially document the headframe prior to demolition.

3. The cores at the "Round Hole" site should be removed and located in a suitable repository such as the Empire Mine State Park or at the Whispering Pines Lane-Brunswick Road intersection as a part of the gateway treatment. Some are currently on display at the entrance to the Nevada County fairgrounds.

Persons Consulted

1. Ernest Decater, Staff Archeologist. Archeological Study Center, California State University, California. Telephone conversation 6/13/83.

M. VISUAL IDENTITY

Community Setting

The Whispering Pines site, particularly the elevations above 2700 feet, can be seen from several vantage points in the community.

* Recommendations are based on those contained in the Archeological Study.

Principal among these is the view from Highway 49, and the view from Brunswick Road. Another view, although seen by fewer prople, is from the easterly end of Dorsey Drive. When Dorsey Drive is extended this view will take on more importance.

The primary scenic resource on the site is the Ponderosa pine forest canopy. Higher elevations contain a uniform and fairly dense tree cover that can be seen for miles. Lower elevations contain fewer trees, and can be seen more clearly at closer range.

The western portions of the site have been altered by mining operations and grading, by roadbuilding and other development. Some areas have been extensively cut and filled and will have a scarred appearance until developed. This portion of the site contrasts sharply with the heavily wooded areas at higher elevations.

Wolf Creek, running along the northerly boundary of the site, provides an added scenic resource. The creek and its riparian vegetation can be clearly seen from the Brunswick Road approach to the site, and while travelling along Idaho-Maryland Road. The deciduous vegetation along the creek stands out against the evergreen pines above and beyond.

Potential Impacts

The following description of visual impacts assumes full implementation of the Specific Plan, with complete application of all development standards contained within the Plan:

1. Principal Views:

- Buildings will appear through the trees where presently none exist.

- The site will be more noticable at night.

- The view from Brunswick Road will be altered with breaks in the tree canopy caused by tree removal. This may be diminished somewhat over time as new trees are planted and grow to maturity.

- The view from Highway 49 will most likely be improved as the graded areas presently denuded of trees are built upon and landscaped.

2. Portion of Site East of High Tension Power Line:

- The site will be changed from its present rural and mostly undeveloped appearance to an industrial park with large buildings, roads, parking and service areas.

- Part of the existing forest canopy will be removed, diminishing somewhat the visual prominence of the pine covered skyline.

- The urbanized area of Grass Valley will be extended about one half mile to the east.

3. Portion of Site West of High Tension Power Line:

- The existing bare cut and fill pads will be developed and landscaped, and will become less noticeable from a distance.

- The present network of graded roads will be replaced with a landscaped parkway.

- The extensive bare areas of the site will become more attractive with new trees and landscaping.

Mitigation Measures Incorporated Into The Specific Plan

Chapter 4 of the Specific Plan (pp. 4-18 to 4-26 contains extensive landscape and design standards which mitigate potential impacts on visual and scenic quality.

Mitigation Measures Recommended By This EIR

None required.*

N. FISCAL CONSIDERATIONS

1. GENERAL COSTS

Table 6-10

ESTIMATED ANNUAL CITY COSTS*

Generated by Project Development
(at Buildout)

Item	Cost (1983 $)
Roads (maintenance only)	$17,500
Police	40,000
Fire	
Administration	10,000
New Station	2,500**
Development Services (includes Planning - Engineering and Building Inspection)	2,000***
	$72,000

* Assumes sanitation is self-supporting, no immediate impact on parks, recreation, animal control and solid waste disposal.

** Represents the project's estimated share of capital costs for a future station in the vicinity of the Sutton Way/Idaho-Maryland/ Brunswick extension.

*** Does not include costs incurred during development, estimated at $10,000.

* No mitigation measures are available which would totally alleviate visual impacts associated with the transition from a natural to built environment. However, the site is located in an area designated by the General Plan for development. As other development takes place, the perceived change from a natural area to a built environment will significantly diminish.

2. GENERAL REVENUES

Table 6-11

ESTIMATED ANNUAL CITY REVENUES
Generated by Project Development
(at Buildout)

Item	Revenue (1983 $)
Property taxes	$52,857
Business licenses*	3,000
Traffic fines	4,000
Utility franchise	5,000
Gas tax (due to AV increase)	2,000
Sales tax	16,300
Cigarette tax (3% of sales tax)	489
Miscellaneous	2,000
	$86,446

* For businesses with 15 or more employees, the license is $100. The project has 38 parcels. It is assumed they will all have more than 15 employees.

3. PROPERTY TAX SHARING

The northern 60% of the project is in tax rate area 62-008, which is in the Grass Valley School District. The southern 40% is in five tax rate areas, 78-001, 78-006, 78-007, 78-008 and 78-012, all in the Union Hill School District. The southern area is divided between the Gold Flat and Ophir Hill Fire Districts, and lies in the Nevada Irrigation District and the Glenbrook Sanitation District.

The tax rate areas, their current assessed values, and the percentage distribution of the 1% county-wide tax rate within them, are shown below:

Table 6-12

CURRENT ASSESSED VALUE

Tax Rate Area	78-001	78-006	78-007	78-008	78-012	62-008
Assessed Value	$98,537	$83,028	$76,460	$12,852	$24,276	$987,266
County G. F.	28.7%	24.6%	29.4%	29.5%	28.9%	29.5%
Solid Waste Fund	.8	.7	.9	.9	.9	.9
NID	6.1	17.1	4.9	-	6.3	4.1
Ophir Hill Fire	10.8	9.4	-	11.5	-	-
Gold Flat Fire	-	-	7.0	-	6.9	7.0
Schools	53.6	48.2	57.8	58.1	57.0	59.5

Total assessed value is $1,280,419. In addition to the county-wide rate, there are debt over-ride tax rates as follows:

Grass Valley Elementary	.017
Union Hill Elementary	.077
Nevada High School	.042
NID loan	.048

The distribution of tax revenues from the project is shown in Table 6-14.

Under the agreement between the County and the City concerning the apportionment of property taxes after an annexation, for the "base year" (the year immediately after the annexation) the taxes transferred to the City will be those previously going to the Solid Waste Fund and the fire districts. Assuming the above 1982-83 tables are applicable, the City would immediately gain, and the respective agencies lose the following:

Solid Waste	$ 113
Ophir Hill	199
Gold Flat	760
	$1,072

Table 6-13

TAX REVENUE DISTRIBUTION

	78-001	78-006	78-007	78-008	78-012	62-008	Total
County	$283	$204	$219	$38	$70	$2,912	$3,726
Solid Waste	8	6	7	1	2	89	113
NID	60	142	36	-	15	405	658
NID debt	5	4	4	-	1	47	61
Ophir Hill	106	78	-	15	-	-	199
Gold Flat	-	-	52	-	17	691	760
Schools	518	400	430	75	138	5,776	7,347
School Debt	12	10	9	2	3	58	94
Total	$1,002	$844	$757	$131	$246	$9,978	$12,958

The agreement also says that in years following the base year, the "tax increment" (the increase in assessed value and property tax revenues over the base year) shall be shared 60% County, and 40% City. This sharing covers both the revenues received by the County and by the City in the base year. Using Table 6-13 these amounts have been calculated for each tax rate area, and converted to percentages for ease of calculating future added taxes to the affected agencies (see Table 6-14). Percentages for the NID and schools would remain as they are, and the over-ride rates for debt would gradually decline as these debts are paid off. Thus the percentages are of the 1% county-wide rate and revenue.

Table 6-14 uses current or base year revenues to make the calculations and develop the percentages. They would only apply to increases in revenues above those shown.

Table 6-14

CITY AND COUNTY COST/REVENUE SHARING BY TRA

	78-001	78-006	78-007	78-008	78-012	62-008
Base Year						
County	$283	$204	$219	$38	$70	$2,912
City	114	84	59	16	19	873
Total	$397	$288	$278	$54	$89	$3,785
Future						
County (60%)	$238	$173	$167	$32	$53	$2,271
City (40%)	$159	$115	$111	$22	$36	$1,514
% of Total Taxes						
County	24.2%	20.8%	22.4%	24.8%	21.8%	23.0%
City	15.6%	13.9%	14.9%	17.1%	14.8%	15.3%

All the ownerships except Town and Country are in TRA 62-008. Portions of Town and Country are in each of the six TRA's. The added values vary with the type of use, and at this time there is not a detailed use map spreading these uses over the Town and Country property, though the general use is corporate park. A rough division of that property on an acreage basis into the TRA's is:

Table 6-15

ASSESSED VALUE BY TRA FOR TOWN AND COUNTRY

	Developable Acres	Assessed Value
78-001	15.7	$5,872,800
78-006	13.1	4,894,000
78-007	11.8	4,404,600
78-008	1.9	734,100
78-012	3.9	1,468,200
62-008	18.9	7,096,300
Total	65.3	$24,470,000

Buildout assessed value, the net increment, the increased taxes paid and their division between the County, the City, and the NID are summarized in Table 6-16 Increased school taxes are omitted because they will be 100% offset by reductions in state aid. Debt taxes are also omitted since they will be paid off by buildout.

Table 6-16

SUMMARY OF TOTAL PROJECT PROPERTY TAX ALLOCATIONS

Tax Rate Area	78-001	78-006	78-007	78-008	78-012	62-008	Total
Assessed Value	$5,872,800	$4,894,000	$4,404,600	$734,100	$1,468,200	$18,856,300	$36,230,300
Less Base Yr.	98,537	83,028	74,460	12,852	24,276	987,266	1,280,419
Net Increase	5,774,263	4,810,972	4,330,140	721,248	1,443,924	17,869,034	34,949,581
Added Taxes	57,743	48,110	43,301	7,212	14,439	178,690	349,496
County Share	12,974	10,007	9,699	1,789	3,148	41,099	79,716
City Share	9,008	6,687	6,452	1,233	2,137	27,340	52,857
NID Share	3,522	8,227	2,122	-	910	7,326	22,107

O. COMPREHENSIVE EVALUATION

1. CUMULATIVE IMPACTS

A primary purpose of the Specific Plan is to mitigate potential conflicts between the development within the project area and surrounding uses -- existing and future. In this sense, the major cumulative impact of the Plan is to reduce adverse environmental effects in surrounding areas. The 1982 Grass

Valley General Plan provides for compatible groupings of land uses in this general area and the Specific Plan carries out the General Plan intent within the project area. The Specific Plan anticipates several areawide policies of the General Plan by including the following features:

- Areawide traffic impacts and recommended roadway improvement mitigations.
- Areawide public facilities and service impacts and recommended mitigations.
- Jobs-housing balance studies for the wider area.
- Fiscal contribution to the City.
- Contribution to the proposed Wolf Creek Parkway.

Adverse environmental impacts are related mainly to the contribution of the project to increased vehicular travel as the wider area becomes furthered developed. The EIR makes recommendations for the project to share in off-site roadway improvements proportionate to the share of the problem it contributes. It was not within the scope of this study to examine alternative configurations of development on an area-wide basis that might affect traffic, air quality, noise, etc.

2. RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The objective of the Specific Plan is to enhance the long-term productivity of the area's economy. Timber production in this area, including the project site, has declined in recent years because of urbanization of the area. Timber harvest must be considered a short-term use while the project develops.

Some grading and clearing will occur and timber can be harvested from these areas. Long-term timber harvesting is not required in the Specific Plan. The Plan also includes provisions for protecting the long-term productivity of the area's plant and wildlife habitats by riparian corridor preservation, low site area coverage, reservation of buffer areas and maintenance of tree cover.

3. POTENTIALLY IRREVERSIBLE ENVIRONMENTAL CHANGES

The urban-type development that will occur within the Specific Plan area can be considered to be an irreversible committment of the relatively undeveloped land. Some habitat will be lost although the Plan is alert to these impacts and takes steps to minimize them.

The economic resources committed to the Specific Plan area will not be lost because of the economic benefits and revenue that will be generated by new development. However, materials used in construction, construction processes, and vehicular fuel will require an irreversible, irretrievable commitment of resources.

4. GROWTH-INDUCING IMPACTS

Summary of Impacts

Employment within the Specific Plan area is about 10 people at present. At buildout of the Specific Plan it is expected to be about 2,150. Residential land use will decrease from 130 acres under present zoning to 10 acres under the Specific Plan. Employment generating land use will increase from 24 acres at present to 144 acres at buildout.

This growth is projected for an area that has been deemed suitable for urban growth by the Grass Valley General Plan.

The Specific Plan responds to the major goal of the General Plan to increase employment opportunities in the Grass Valley area, thereby improving the current jobs-housing imbalance and helping to achieve the "Balanced Community" concept of the General Plan. In this regards, the new jobs induced by the Specific Plan will help to mitigate a major current community problem, rather than to create a new problem.

Analysis of Impacts

The project's specific growth-inducement impacts are somewhat difficult to specify because of several uncertainties:

1. The ratio between basic and secondary (population serving) employment is unusually low in Nevada County -- presumably because many of the people in retail and service businesses serve tourists and seasonal visitors. Conventional definitions of basic and secondary employment indicate a ratio of about five (5.2) new population-serving jobs to each basic employee in the County in comparison to an average statewide ratio of 3.7 to 1.

2. The ratio of basic jobs to service jobs in the project could vary widely. Some industrial districts in the Sacramento area reportedly have as few as 15% of their employment in basic industries, while others have much higher ratios.

3. Depending on the types of industry attracted, the new employees may be drawn primarily from outside the County and could be mainly household heads. In contrast, the new employees could be drawn mainly from the County's present population and consist of secondary workers within households.

4. The firms locating in Whispering Pines may be primarily drawn from outside and be establishing branch plants, or they may primarily be relocating local firms which are expanding or seeking more advantageous plant sites.

With these uncertainties in mind, the following analysis is meant to provide a general sense for growth inducement impacts.

The Grass Valley General Plan Update (1982) found that the City and the surrounding western Nevada County area could expect continuing rapid population growth in the 1980's and that the area was substantially below regional and state averages in employment and household income. While manufacturing employment has grown rapidly in recent years, the proportion of manufacturing activity in the County is only about one-half the state average. The success of the Grass Valley Group, the growth of employment at the Hewlett/ Packard and Shugart plants in Roseville, and the proposed development of the Litton and other local properties, all indicate interest in locating new plants in the Grass Valley area. The Whispering Pines project is a response to these economic interests and trends.

Just how important these economic and population trends are is shown by the fact that manufacturing accounted for 14% of the total employment growth in Nevada County between 1970 and 1980 even though it only amounted to 8% of the employment at the start of the decade. More important, manufacturing accounted for 87% of the growth in the County's basic employment (traditionally agriculture, mining, forestry, manufacturing, and federal and state government employment). Basic uses bring dollars into the community from outside while secondary uses rely on dollars already circulating in the

community. The Whispering Pines project could increase the County's 1980 level of manufacturing (1,850) by 1,000 to 1,500 if it is assumed that 50% to 75% of the new employment generated will be basic type firms. Other types of uses that can be expected to locate in the project include offices, business services, wholesalers and distributors, manufacturer's representatives, utilities, transport services, etc. Such uses generate secondary (population-serving) rather than basic employment.

As indicated previously, the Whispering Pines project can be expected to have a beneficial impact on the jobs-housing balance. Between 1970 and 1980 the ratio of jobs to households in Nevada County increased slightly from .81 to .82. The State ratios were 1.28 and 1.34 respectively; the regional averages are between 1.15 and 1.20. Since 1980, State employment data indicates that the local jobs-housing ratio has dropped slightly because of the recession.

The historical data shows that employment and households rose at similar rates in the 1970's -- 111% and 108% respectively. However, in the 1980's the number of households has continued to increase (16% between 1980 and 1983) while employment has apparently been comparatively stable -- 3% to 5% increase. Therefore, it is evident that the basic growth pressure comes from population growth rather than new employment. Whispering Pines would be an encouragement for new employment to support the continuing population growth.

Two other comments about population and housing trends are informative. Historically, the Nevada County and Grass Valley areas have attracted the smaller and older type households which have below average numbers of employees -- in the 1970's the average size of households was 2.43. In the

1980's, the average size of household has been 2.98 suggesting that they are younger families with more children and high numbers of employed persons. Secondly, the construction of new housing, much of it seasonal, is substantially more than the population and household growth. Therefore, an increase in employment would not necessarily cause any significant change in the housing market.

Assuming that the new employment in Whispering Pines generates 1.2 employees for each household generated, the project's expected 2,150 employees would generate 1,790 new households with a population of about 5,000 persons. This number of households would be equivalent to about two years growth in the County. In the 1970's and the 1980's the County's average household growth has been between 700 and 1,200 households per year. To indicate the range of impacts, the project's estimated 2,150 employees could generate "total employment" between 3,500 and 6,600 with housing demand ranging from 2,500 to 5,500 new units.

Mitigation Measures Incorporated Into The Specific Plan

The Specific Plan is a response to demand for more employment opportunities. This is a recognized goal of the General Plan. Thus the Plan facilitates, rather than induces, growth.

Mitigation Measures Recommended By This EIR

None Required.

5. ANALYSIS OF QUANTITATIVE IMPACTS ON THE CITY'S CURRENT GENERAL PLAN

Figures 6-1 through 6-3 summarizes the project's effect on the Grass Valley General Plan.

The proposed Whispering Pines Corporate Community makes four contributions towards balanced community growth. First it achieves the General Plan's intent for industrial development on the property. The General Plan's underlying philosophy rests on a balanced community concept. The amount of land to be developed (99 acres) is 8% of the 1,150 acres proposed in the General Plan for employment type uses.

Second, the project increases the jobs/housing balance in the Grass Valley General Plan Area. The current ratio is estimated at .72 jobs per household.* The addition of 2,150 jobs in the proposed Whispering Pines development could raise the Countywide ratio to .86 jobs per household, based on the present number of households in the County. The actual ratio will depend on the amounts of other employment and population growth that actually occur.

Third, the proposed development will increase the ratio of land used for employment activities in relation to the number of housing units. In 1980, there were an estimated 1.9 acres of land used for employment uses for each 100 housing units in the Grass Valley Planning Area.* The proposed development would increase that ratio to nearly 2.4 acres per 100 households based on the present housing stock in the Planning Area. This is nearly 20% higher than in 1980. Again, the actual figure will depend on the amount of other employment uses that develop and the amount of growth in the housing stock.

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* Technical Memorandum #7. Background studies for the 1982 Grass Valley General Plan. Available from the City Planning Department.

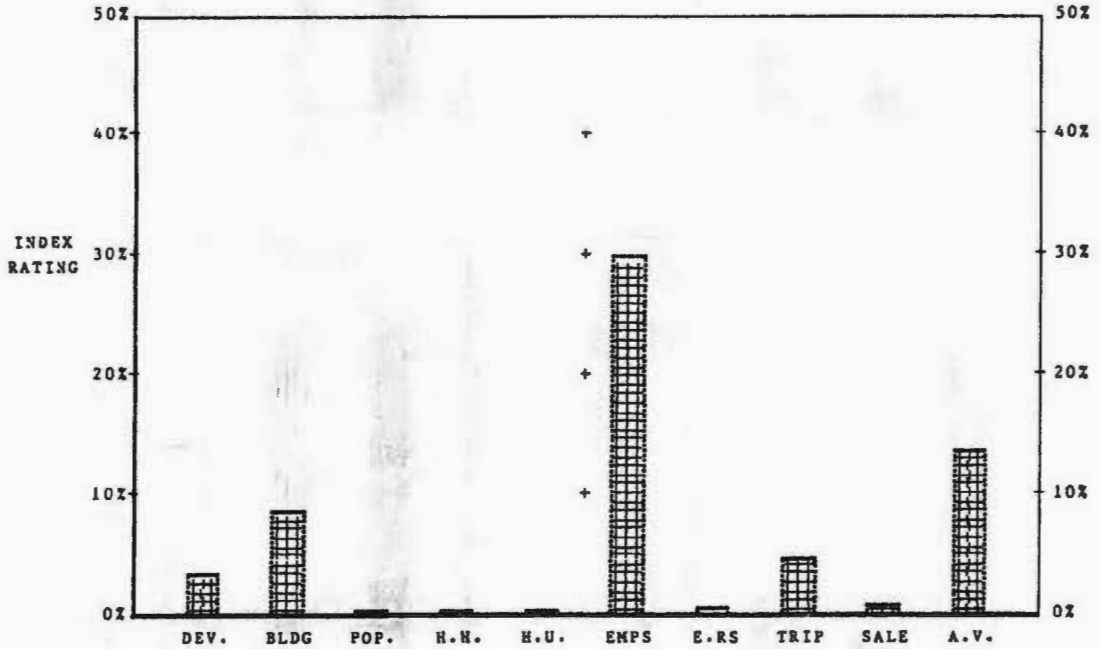
Fourth, the proposed project would probably reduce the "commuting index" (the proportion of residents commuting out of the County for a job). While the situation is complex, a reasonable estimate is that the creation of 2,150 local jobs would decrease the current (1980) index of 16% to 15 or 14%.

In summary, the proposed Whispering Pines Corporate Community would make a positive contribution towards achievement of the General Plan goal for a balanced community.

FIGURE 6-1
PROJECT CHARACTERISTICS

LAND, POPULATION, ECONOMIC, TRAFFIC & FISCAL CHARACTERISTICS
THE PROJECT AS A % OF THE GRASS VALLEY PLANNING AREA

NOTE: THE FOLLOWING BARS ARE ILLUSTRATIVE OF A FULLY DEVELOPED PROJECT AS IF IT WERE IN OPERATION IN 1983



DEV. = DEVELOPED ACRES
BLDG = BUILDING AREA
POP. = POPULATION
H.H. = HOUSEHOLDS
H.U. = HOUSING UNITS
EMPS = EMPLOYMENT
E.RS = EMPLOYED RESIDENTS
TRIP = TRIPS GENERATED (ADT)
SALE = TAXABLE SALES
A.V. = ASSESSED VALUATION

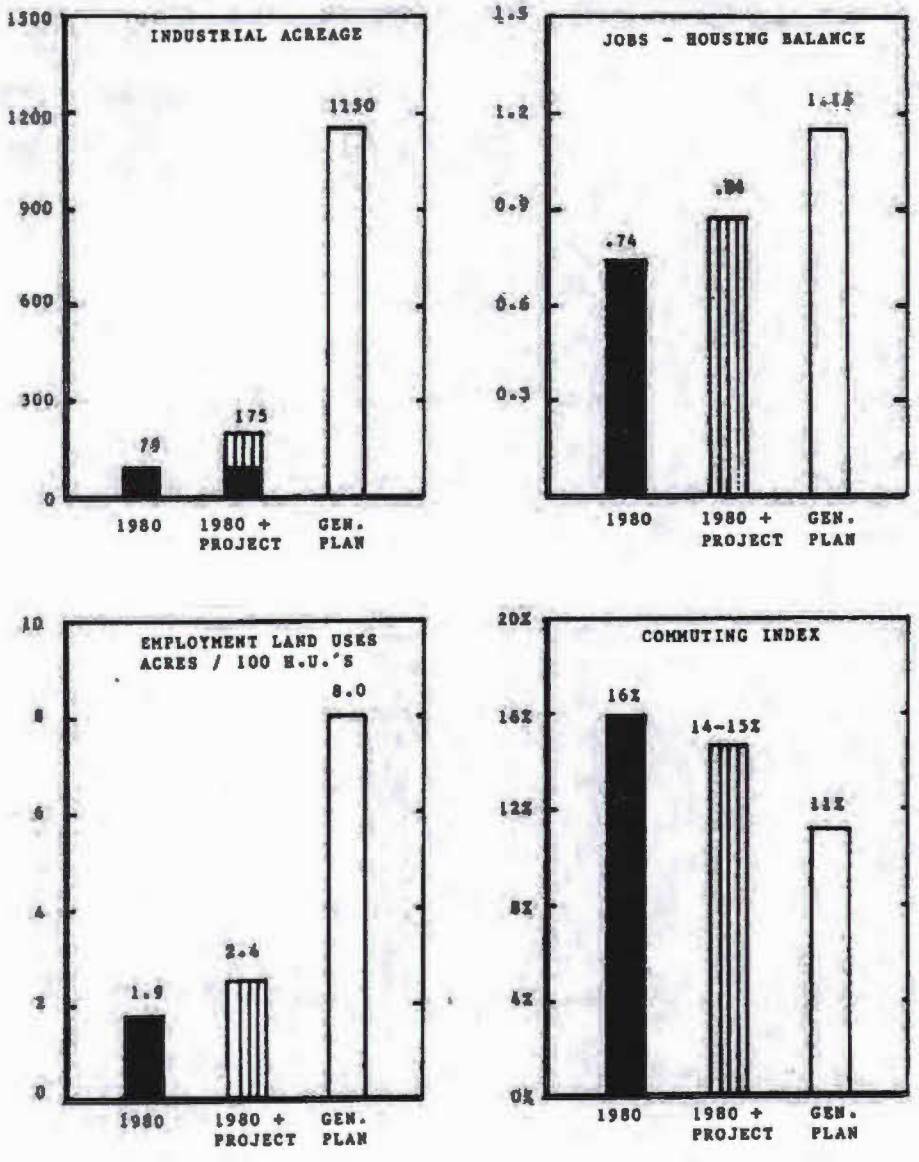
SOURCES: THE SPAN PROGRAMS.

FIGURE 6-2

BALANCED COMMUNITY ILLUSTRATIONS

ILLUSTRATIONS OF PROJECT'S CONTRIBUTION
TO ACHIEVING BALANCED COMMUNITY DEVELOPMENT

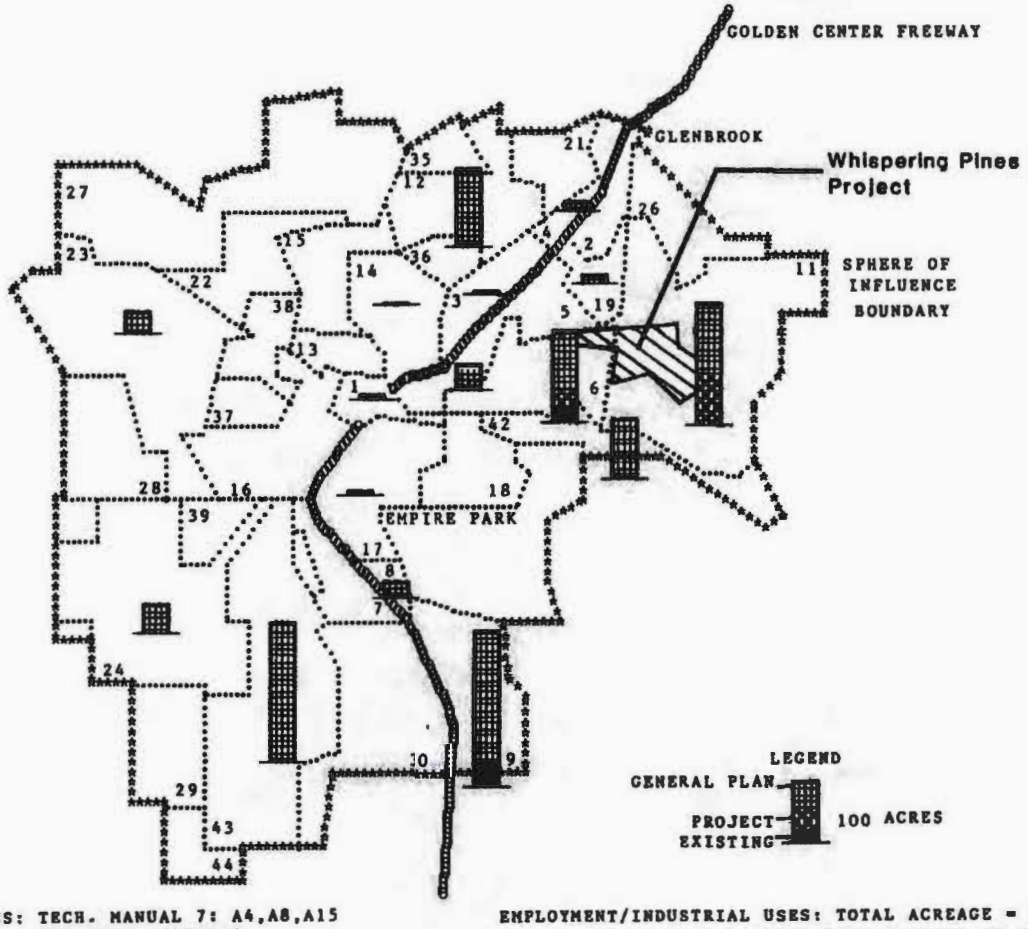
WHISPERING PINES SPECIFIC PLAN
GRASS VALLEY, CALIFORNIA



SOURCES: TECH. MEMO. #7: PAGE 17
THE SPAN PROGRAMS

FIGURE 6-3

SUBAREA IMPACT OF ADDED INDUSTRIAL ACRES



SOURCES: TECH. MANUAL 7: A4,A8,A15
THE SPAN PROGRAMS

EMPLOYMENT/INDUSTRIAL USES: TOTAL ACREAGE = 1240 ACRES.
BAR HEIGHT IS PROPORTIONAL TO THE ACRES IN INDUSTRIAL USES.

SOURCE: WPM PLANNING TEAM & THE SPAN PROGRAMS
SCALE: 1 MILE |_____|

P. ALTERNATIVES TO THE PROPOSED SPECIFIC PLAN

The California Environmental Quality Act (CEQA) requires consideration of alternatives to a proposed project. The discussion must indicate how identified significant adverse impacts would be reduced or what new impacts would be created. The no project alternative must always be evaluated.

1. NO PROJECT ALTERNATIVE

This alternative implies a continuance of existing on-site uses, i.e. two residences, a cabinet shop, church, truck repair shop, petroleum bulk distributing plant and occasional timber harvest. All of the beneficial impacts (needed jobs and tax base) associated with project development would be eliminated.

Current County single-family residential zoning would be retained, no annexation would occur, no extension of sewer and water into the site would take place and no municipal services would be provided.

Property owners would seek permits from the County for their individual parcels without a coordinated plan as offered by the proposed Specific Plan. Water would continue to be provided by private wells and water quality would potentially be endangered by seepage from septic systems.

However, the Grass Valley General Plan designates the project site predominately for a planned employment center and the remainder for manufacturing-industrial. The Project complies with the General Plan intent for the site and also responds to the growing market demand for well planned industrial sites, provided with public facilities and services and with long-range guarantees for a managed environment.

2. RESIDENTIAL DEVELOPMENT ALTERNATIVE

Residential development of the site could occur as an alternative if no annexation to the City occurs and current County zoning is maintained. However, such development would not be consistent with the City's General Plan for the project area and there are other nearby residential areas planned for residential development.

Project characteristics would be a low density, large parcel residential area. Whispering Pines Lane would remain as a low standard County road and intersection redesign at the connection of Whispering Pines Lane and Brunswick Road would likely not occur. Traffic hazards at this intersection would likely increase. The proliferation of individual septic tanks could create potential water quality problems downstream.

A residential project would exacerbate the current jobs-housing imbalance in the Grass Valley - Nevada City community. Residential use in the project area would likely increase the number of aircraft noise complaints registered with the Nevada County Airport.

3. UNCOORDINATED INDUSTRIAL DEVELOPMENT ALTERNATIVE

Without the Specific Plan as an overall guide for planned development among seven individual ownerships, each owner would individually plan for maximum development opportunity.

Owners that are not contiguous to the City boundary could not seek annexation. Without an overall development concept, design criteria and performance standards, industrial development standards would be lower, and environmental impacts higher. The visual appearance would likely be inferior.

Employment densities would be lower and fewer vehicles would use streets in the immediate area. Travel related air pollution would likely increase because some workers that might find ob opportunities in a higher employee density development (the proposed Specific Plan) would need to travel out of town for work.

APPENDICES

Appendix A

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William N. Roberts, City Planner, City of Grass Valley.

Tom Leland, City Engineer, City of Grass Valley.

Ken Baker, Land Surveyor.

Appendix B

DRAFT

September 1983

GRASS VALLEY ZONING ORDINANCE 79 N.S., AS AMENDED

ARTICLE

SPECIFIC PLAN DISTRICT

Section _____. Purpose. The Specific Plan District is intended to accommodate various types of development such as professional and administrative offices, industrial parks, commercial service centers, neighborhood and district shopping centers, multifamily housing developments, single family residential developments and any other use or combination of uses. The district is intended to encourage the flexibility of design and development of land to promote the most appropriate use; to support high standards, to preserve the natural features and qualities of the site, to counteract the effects of urban congestion and monotony, to increase economy in provision of streets and utilities, to create attractive, identifiable centers for work, commercial services and residential development in Grass Valley.

Sec. _____. General Provisions.

(a) A Specific Plan District may be established by an amendment to the zoning ordinance or as a prezoning for any area within the boundary of the Grass Valley General Plan. Each Specific Plan District shall be a logical geographical unit and may include one or more parcels. Any district may be broken down into subareas for the purpose of assigning specific development standards and regulation. Specific Plan District shall be numbered in sequence of application beginning with the number 1 and subareas shall also be numbered within each district beginning with letter A.

(b) Once established, a Specific Plan District shall have its boundary set forth on the official zoning map of the city. Site requirements, uses permitted and all other conditions on development shall be adopted for a Specific Plan District and may be incorporated into the zoning ordinance by reference.

(c) A Specific Plan District shall conform to the policies of the General Plan designation for the area.

(d) The minimum size for a Specific Plan District shall be 5 acres. Smaller parcels may be combined in an application to meet minimum qualification for land area.

Sec. _____. Establishment of a Specific Plan District.

(a) A Specific Plan District shall be established by recommendation of the Planning Commission and approval of an ordinance by the City Council.

(b) A Specific Plan District shall include the following information:

(1) Identification of the geographical area where district standards and subarea standards shall apply.

(2) Description of the intent and character of area development.

(3) Identification of environmental mitigation measures and important features to be preserved.

(4) Identification of uses permitted and uses requiring use permits.

(5) Identification of street and right-of-way standards and easements for provision of utilities and pathways.

(6) Identification of standards for height and bulk, setback, parking, lot size, percentage of open space and type of landscaping.

Sec. _____. Adoption of a Specific Plan District. Adoption of a Specific Plan District shall be as follows:

(a) The Planning Director shall determine that the proposed district include the information required.

(b) The Planning Director shall propose acceptance of the draft EIR or Negative Declaration.

(c) The Planning Commission shall hold a public hearing after providing a minimum of 10 days notice published in a newspaper of local circulation.

(d) The Planning Commission shall recommend district adoption to the City Council through resolution with a minimum affirmative vote of the majority of the voting membership of the commission.

(e) The City Council shall hold a public hearing in accordance with the notice requirements above.

(f) The City Council shall adopt a Specific Plan District by ordinance. Any changes proposed by the City Council must be referred back to the Planning Commission for reconsideration and recommendation prior to Council action (per Section 65504 of the California Government Code.

Sec. _____. Amendment of a Specific Plan District. The procedure for amendment of a Specific Plan District shall be as follows:

(a) The Planning Director will be responsible for determining whether an amendment proposal is major or minor. A major amendment shall follow the same procedure as outlined in the previous section for new districts. A minor amendment may be approved or denied by the Planning Director. The decision shall be made in writing and in event of a denial the applicant may appeal the decision to the Planning Commission.

(b) Criteria for determining whether the proposal is a major or minor amendment is as follows:

(1) Introduction of land uses not discussed previously.

(2) Major changes in layout of land uses.

(3) Alteration of circulation concepts.

(4) Changes in densities or design standards.

(5) Changes in Plan which may create or increase environmental impacts.

(c) The following findings shall be considered by a decision-making body prior to recommendation for approval.

(1) Changes have occurred in the community since the Specific Plan was adopted.

(2) The amendment will benefit the Specific Plan Area or the community.

(3) The amendment is in conformance with the General Plan.

(4) The change will not adversely affect adjacent properties and can properly be serviced.

(5) There are physical constraints associated with the property that make the amendment warranted

Sec. _____. Development Map Criteria.

(a) The purpose of a Development Map is to insure the requirements, standards and intent of the Specific Plan Development District are met for sites within the Specific Plan Area.

(b) No construction or building permit may be approved within an area designated as a Specific Plan District without the review and approval of a Development Map by the Planning Director/ Planning Commission to ensure its consistency with the District.

(c) A Development Map application shall be submitted on a form provided by the Planning Department accompanied by the required fee in addition to documents and materials specified by the Planning Director which are necessary to enable the Planning Director/Planning Commission to make the findings required by this Article. The related materials and documentation may consist of any or all of the following:

(1) Preliminary title report for the property.

(2) Project Location Map for the area.

(3) Site Plan.

(4) Landscape Plan.

(5) Grading Plan.

(6) Erosion Control Plan.

(7) Site Circulation Plan.

(8) Preliminary Building plans and elevations for all areas visible from a public right-of-way.

(9) Sign program.

(10) Identification of proposed uses and activities.

(11) Explanation or illustration of compliance with any appropriate environmental mitigation measures.

(12) A schedule of project and utility phasing.

(13) Any other data, plans, drawings or surveys considered necessary by the Planning Director for an adequate review of the project.

(14) Submission requirements shall be identified for an applicant in conformance with _____(AB 884).

Sec. ____. Adoption of Development Map. The procedure for adoption of a development map is as follows:

(a) Planning Staff shall determine that the application is complete.

(b) Planning Staff shall review the Development Plan for compliance with the General Plan , the Specific Plan District, environmental mitigation measures and other City requirements.

(c) Planning Staff shall circulate copies of the Development map and related information to appropriate departments and agencies for review. Such processing may occur concurrently with environmental review and subdivision review.

(d) Planning Staff shall hold a Development map conference with the applicant and commentary agencies prior to the Planning Commission hearing.

(e) Planning Staff shall prepare a report for the Planning Commission including comments from other agencies, environmental determination and a recommendation.

(f) The Planning Commission shall hold a public hearing on the Development map following standard notice procedure.

(g) The Planning Commission shall approve, deny or modify the Development map. The decision of the Planning Commission may be appealed to the City Council.

Sec. ____. Amendment of Development Map. The procedure for amendment of a Development Map shall be as follows:

(a) Development map changes may be approved by the Planning Director provided that they do not conflict with the intent of initial Development Plan approval or with the Specific Plan District.

(b) In event that changes in the Development map may conflict with its initial approval then application shall be made to the Planning Commission.

Sec. ____. Annexation of Specific Plan District. The procedure for annexation will be as follows:

(a) The Specific Plan District must be adopted by the City Council.

(b) Following adoption lands in the area that are contiguous to the existing city will be eligible to apply for annexation.

(c) Annexations will be processed through LAFCO and will be considered on the basis of the City's adequacy to provide services.

Appendix C

WHISPERING PINES LANE CORRIDOR DESIGN REVIEW COMMITTEE

a. Any use proposed within the Design Review Corridor along Whispering Pines Lane in SP-1 will be first submitted to the Design Review Committee and approved in writing. Exterior site layout and building design, colors, materials, lighting, signing and landscaping will be reviewed, but interior layout and operations need not be reviewed unless it is found that the exterior appearance suffers critically as a direct result.

b. The purpose of design review is to assist the Applicant and his design staff at an early stage in achieving the desired quality level of site development along Whispering Pines Lane.

c. The Whispering Pines Lane Design Review Committee for the SP-1 area, hereafter referred to as Design Review Committee, shall consist of three (3) persons:

   1) An owner appointed by a majority of the Property Owners Association of SP-1, or an appointee from a Development Association representing the SP-1 area.

   2) Two persons appointed by the City Council to include one member of the Planning Commission and one independent architect not associated with projects in the Specific Plan Area.

d. Each appointing authority may appoint an alternate to serve in the absence of its committee member. The Design Review Committee shall, within 21 calendar days after submission of Preliminary Plans to each committee member, provide the Applicant with a written approval or disapproval decision. Reasons for disapproval shall be stated. Applicants are encouraged to attend Committee meetings to explain their project.

e. Plans may be submitted to the Design Review Committee either by personal delivery to each member or by first class mail. The 21 days start to run from the last date of mailing or from the last date of personal delivery.

f. An affirmative vote of two of the three Design Review Committee shall be needed for approval. Lack of action by the Committee within 21 days after the last mailing or delivery of the plans shall result in automatic approvals of said plans.

g. THe Design Review Committee will make a determination if the proposed project is in conformance with the purpose and intent of Specific Plan No. 1 and the design standards contained therein. The Committee may use supplementary design guidelines to aid the Applicant in expediting the review of his plans.

Appendix D

DETAILED PROJECT CHARACTERISTICS BY OWNERSHIP

Table D-1

TYPES OF LAND USE & USABLE ACREAGES
Whispering Pines Specific Plan
Grass Valley, California
September 1983

Acres

Parcel Owner		Types of Land Use			
		Corporate District SP-1A	Industrial Services District SP-1A	Housing SP-1C	TOTAL
Town & Country	Total	91.00	.	.	91.00
	Roads	7.80	.	.	7.80
	12% +	17.90	.	.	17.90
	Usable	65.30	.	.	65.30
Loma Rica	Total	15.30	.	.	15.30
	Roads	1.54	.	.	1.54
	12% +	2.89	.	.	2.89
	Usable	10.87	.	.	10.87
Church-of-God	Total	1.61	.	9.39	11.00
	Roads	.26	.	2.48	2.74
	12% +	.	.	3.88	3.88
	Usable	1.35	.	3.03	4.38
Patterson	Total	5.20	.	.	5.20
	Roads	.36	.	.	.36
	12% +	2.27	.	.	2.27
	Usable	2.57	.	.	2.57
Nevada City Engineering	Total	7.00	.	.	7.00
	Roads	.70	.	.	.70
	12% +	2.01	.	.	2.01
	Usable	4.29	.	.	4.29
Robinson	Total	4.97	18.33	.	23.30
	Roads	.32	1.93	.	2.25
	12% +	.	9.81	.	9.81
	Usable	4.65	6.59	.	11.24
Tom Sierra	Total	.	1.40	.	1.40
	Roads	.	.	.	.
	12% +	.	.44	.	.44
	Usable	.	.96	.	.96
TOTALS	Total	125.08	19.73	9.39	154.20
	Roads	10.98	1.93	2.48	15.39
	12% +	25.07	10.25	3.88	39.20
	Usable	89.03	7.55	3.03	99.61

Table D-2

USE CHARACTERISTICS

125 ACRES OF CORPORATE DIST. OFFICES, R&D, & HI-TECH (SP-1A)
WHISPERING PINES SPECIFIC PLAN
GRASS VALLEY, CALIFORNIA

NOTE: THE FOLLOWING FIGURES ARE INDICATIVE OF A FULLY DEVELOPED PROJECT AS IF IT WERE IN OPERATION IN FISCAL 1982/1983

ITEM			AMOUNT	RATIO /1000SF	RATIO /ACRE	RATIO /EMP
GROSS ACRES		[1]	125.1			
NET ACRES			89.0			
RATIO OF NET TO GROSS			71.2%			
BUILDING AREA (000'S OF SQ.FT.)		[2]	890.3	1.0	10.0	0.433
LAND COVERAGE (000'S OF SQ.FT.)		[3]	890.3			
% OF NET ACRES			23.0%			
EMPLOYMENT		[4]	2057.	2.3	23.1	1.0
TRAFFIC: AVERAGE DAILY TRIPS		[5]	6499.	7.3	73.0	3.2
PEAK HOUR TRIPS		[6]	1040.	1.2	11.7	0.5
INBOUND		[6]	156.	0.2	1.8	0.1
OUTBOUND		[6]	884.	1.0	9.9	0.4
TAXABLE SALES	($000'S)	[7]	579.	0.6	6.5	0.281
PURCHASES BY EMPLOYEES	($000'S)	[8]	1028.	1.2	11.6	0.500
MARKET VALUATION	($000'S)		42617.	47.9	478.7	20.7
LAND VALUATION	($000'S)	[9]	9695.	10.9	108.9	4.7
BUILDING COSTS	($000'S)	[10]	25819.	29.0	290.0	12.6
OTHER DEVELOPMNT COSTS	($000'S)	[11]	7103.	8.0	79.8	3.5
ASSESSED VALUATION	($000'S)		36319.	40.8	407.9	17.7
REAL PROPERTY	($000'S)	[12]	34094.	38.3	382.9	16.6
PERSONAL PROPERTY	($000'S)	[13]	2226.	2.5	25.0	1.1
TAX REVENUES	($'S)		116924.	131.	1313.	57.
PROPERTY TAXES	($'S)	[14]	111137.	125.	1248.	54.
SALES TAXES	($'S)	[15]	5787.	6.	65.	3.

FACTORS USED IN PREPARING TABLE D-2

125 ACRES OF CORPORATE DIST. OFFICES, R&D, & HI-TECH (SP-1A)
WHISPERING PINES SPECIFIC PLAN
GRASS VALLEY, CALIFORNIA

NOTE: # ALL DOLLAR VALUES ARE IN 1983 DOLLARS.

[1] GROSS ACRES = 125.08; NET ACRES = 89.03

[2] THE RATIO OF BUILDING AREA PER ACRE IS 10000. SQUARE FEET.

[3] BUILDINGS ARE ONE & TWO STORY. MANY BUILDINGS HAVE HIGH BAYS.
AVERAGE NUMBER OF STORIES: 1.0

[4] THE NUMBER OF EMPLOYEES PER 1,000 SQUARE FEET IS 2.31

[5] THE RATIO OF TRIPS PER EMPLOYEE IS ESTIMATED AT 3.16

[6] % OF TRIPS DURING PEAK HOUR = 16.0%
% OF TRIPS INBOUND = 15.0%; % OF TRIPS OUTBOUND = 85.0%

[7] TAXABLE SALES PER SQUARE FOOT: $ 0.65
THE RATIO OF TAXABLE SALES TO TOTAL SALES IS 100.0%

[8] THE PURCHASES BY EMPLOYEES AT RETAIL STORES & SHOPS IS ESTIMATED $500.00 PER YEAR.

[9] THE VALUE OF THE LAND WAS ESTIMATED AT 2.50 PER SQUARE FOOT.

[10] CONSTRUCTION COSTS: $29.00 PER SQUARE FOOT.

[11] OTHER DEVELOPMENT COSTS: 20.% OF LAND VALUE & BUILDING COSTS.

[12] THE ASSESSED VALUATION AT THE END OF 10 YEARS IS ESTIMATED AT 80.% OF MARKET VALUE.

[13] PERSONAL PROPERTY IS ESTIMATED AT $ 2.50 PER SQUARE FOOT.

[14] PROPERTY TAX RATE: $0.306 PER $100 ASSESSED VALUATION

[15] SALES TAX RATE: $0.0100 PER $1 OF TAXABLE SALES.

Table D-3

USE CHARACTERISTICS

20 ACRES OF LIGHT INDUSTRIAL & SERVICE TYPE USES (SP-1B)

WHISPERING PINES SPECIFIC PLAN

GRASS VALLEY, CALIFORNIA

NOTE: THE FOLLOWING FIGURES ARE INDICATIVE OF A FULLY DEVELOPED PROJECT AS IF IT WERE IN OPERATION IN FISCAL 1982/1983

ITEM		AMOUNT	RATIO /1000SF	RATIO /ACRE	RATIO /EMP
GROSS ACRES	[1]	19.7			
NET ACRES		7.6			
RATIO OF NET TO GROSS		38.3%			
BUILDING AREA (000'S OF SQ.FT.)	[2]	96.6	1.0	12.8	1.111
LAND COVERAGE (000'S OF SQ.FT.)	[3]	96.6			
% OF NET ACRES		29.4%			
EMPLOYMENT	[4]	87.	0.9	11.5	1.0
TRAFFIC: AVERAGE DAILY TRIPS	[5]	296.	3.1	39.2	3.4
PEAK HOUR TRIPS	[6]	47.	0.5	6.3	0.5
INBOUND	[6]	7.	0.1	0.9	0.1
OUTBOUND	[6]	40.	0.4	5.3	0.5
TAXABLE SALES ($000'S)	[7]	725.	7.5	96.0	8.333
PURCHASES BY EMPLOYEES ($000'S)	[8]	43.	0.4	5.8	0.500
MARKET VALUATION ($000'S)		3103.	32.1	411.0	35.7
LAND VALUATION ($000'S)	[9]	493.	5.1	65.3	5.7
BUILDING COSTS ($000'S)	[10]	2092.	21.6	277.1	24.1
OTHER DEVELOPMNT COSTS ($000'S)	[11]	517.	5.4	68.5	5.9
ASSESSED VALUATION ($000'S)		2724.	28.2	360.8	31.3
REAL PROPERTY ($000'S)	[12]	2482.	25.7	328.8	28.5
PERSONAL PROPERTY ($000'S)	[13]	242.	2.5	32.0	2.8
TAX REVENUES ($'S)		15583.	161.	2064.	179.
PROPERTY TAXES ($'S)	[14]	8335.	86.	1104.	96.
SALES TAXES ($'S)	[15]	7248.	75.	960.	83.

FACTORS USED IN PREPARING TABLE D-3

20 ACRES OF LIGHT INDUSTRIAL & SERVICE TYPE USES (SP-1B)
WHISPERING PINES SPECIFIC PLAN
GRASS VALLEY, CALIFORNIA

NOTE: # ALL DOLLAR VALUES ARE IN 1983 DOLLARS.

[1] GROSS ACRES = 19.73; NET ACRES = 7.55

[2] THE RATIO OF BUILDING AREA PER ACRE IS 12800. SQUARE FEET.

[3] BUILDINGS ARE ONE & TWO STORY. MANY BUILDINGS HAVE HIGH BAYS.
AVERAGE NUMBER OF STORIES: 1.0

[4] THE NUMBER OF EMPLOYEES PER 1,000 SQUARE FEET IS 0.90

[5] THE RATIO OF TRIPS PER EMPLOYEE IS ESTIMATED AT 3.40

[6] % OF TRIPS DURING PEAK HOUR = 16.0%
% OF TRIPS INBOUND = 15.0%; % OF TRIPS OUTBOUND = 85.0%

[7] TAXABLE SALES PER SQUARE FOOT: $ 7.50
THE RATIO OF TAXABLE SALES TO TOTAL SALES IS 100.0%

[8] THE PURCHASES BY EMPLOYEES AT RETAIL STORES & SHOPS IS ESTIMATED $500.00 PER YEAR.

[9] THE VALUE OF THE LAND WAS ESTIMATED AT 1.50 PER SQUARE FOOT.

[10] CONSTRUCTION COSTS: $21.65 PER SQUARE FOOT.

[11] OTHER DEVELOPMENT COSTS: 20.% OF LAND VALUE & BUILDING COSTS.

[12] THE ASSESSED VALUATION AT THE END OF 10 YEARS IS ESTIMATED AT 80.% OF MARKET VALUE.

[13] PERSONAL PROPERTY IS ESTIMATED AT $ 2.50 PER SQUARE FOOT.

[14] PROPERTY TAX RATE: $0.306 PER $100 ASSESSED VALUATION

[15] SALES TAX RATE: $0.0100 PER $1 OF TAXABLE SALES.

Table D-5

PROJECT AS A % OF CITY

PROPOSED DEVELOPMENT
WHISPERING PINES SPECIFIC PLAN

NOTE: THE FOLLOWING FIGURES ARE INDICATIVE OF A FULLY DEVELOPED PROJECT AS IF IT WERE IN OPERATION IN 1983

ITEM		PROJECT AMOUNT	CITYWIDE AMOUNT	PROJECT AS A % OF THE CITY
DEVELOPED ACRES		115.0	3211.	3.58%
EMPLOYMENT USES		96.6	79.	122.28%
BUILDING AREA	(000 SF)	987.	11200.	8.81%
POPULATION		67.	13640.	0.49%
HOUSEHOLDS		27.	6030.	0.45%
HOUSING UNITS		30.	6584.	0.46%
EMPLOYMENT		2150.	7200.	29.86%
EMPLOYED RESIDENTS		35.	5320.	0.66%
TRIPS GENERATED (ADT)	(000)	6.8	142.	4.79%
TAXABLE SALES	($ MIL)	$1.3	$150.	0.87%
ASSESSED VALUATION	($ MIL)	39.	284.	13.7%
CITY'S OPERATING REVENUES		0.	0.	0.00%
CITY'S OPERATING COSTS		0.	0.	0.00%

SOURCE: SPAN PROGRAMS

ROADWAY LEVELS OF SERVICE CONCEPT

(Signalized Intersections)

Level of Service A

- Free flow conditions
- Low volumes
- High operating speed
- Uninterrupted flow
- No restriction on maneuverability
- Drivers maintain desired speeds
- Little or no delays

Level of Service B

- Stable flow conditions
- Operating speeds beginning to be restricted

Level of Service C

- Stable flow but speed and maneuverability restricted by higher traffic volumes
- Satisfactory operating speed for urban conditions
- Delays at signals

Level of Service D

- Approaching unstable flow
- Low speeds
- Major delays at signals
- Little freedom to maneuver

Level of Service E

- Lower operating speeds
- Volumes at or near capacity
- Unstable flow
- Major delays and stoppages

Level of Service F

- Forced flow conditions
- Low speeds
- Volumes below capacity (may be zero)
- Stoppages for long periods because of downstream congestion

Appendix E

CAPACITY INDEX

INTERSECTION: BRUNSWICK/NEVADA CITY HIGHWAY
CONDITION : P.M. Peak Hour
INDEX : 71 - LOS B Without Project 72 LOS B With Project

Vehicle Movements

By Direction		HOURLY VOLUME	ASSIGNED HOURLY VOLUME PER LANE	HOURLY VOLUME OF CONFLICT MOVEMENTS*
1. Eastbound right turn		5		
2. Eastbound		5	15	15
3. Eastbound left turn		5		
4. Southbound right turn		5		
5. Southbound		300	155	
6. Southbound left turn	(5)	450	450	(5) 450
7. Westbound right turn	(40)	430	430	
8. Westbound		10		
9. Westbound left turn		270	170	170
10. Northbound right turn		270	270	
11. Northbound		240	240	240
12. Northbound left turn		5	5	

SUM OF CRITICAL VOLUMES	(5) 875
TOTAL INDEX (SUM X 100/1,225)	72 71

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project

CAPACITY INDEX

INTERSECTION: BRUNSWICK ROAD/FREEWAY 49 NORTHBOUND ON OFF RAMP
CONDITION : P.M. Peak Hour
INDEX : 877 - LOS B Without Project 81 - LOS C With Project

Vehicle Movements

By Direction		HOURLY VOLUME	ASSIGNED HOURLY VOLUME PER LANE	HOURLY VOLUME OF CONFLICT MOVEMENTS*
1.	Eastbound right turn	140		
2.	Eastbound	(10) 740	440	
3.	Eastbound left turn	-		
4.	Southbound right turn	-		
5.	Southbound	-		
6.	Southbound left turn	-		
7.	Westbound right turn	-		
8.	Westbound	(40) 730	(40) 730	(40) 730
9.	Westbound left turn	(40 190	190	
10.	Northbound right turn	340	340	
11.	Northbound	-		
12.	Northbound left turn	220	220	220

SUM OF CRITICAL VOLUMES	(40) 950
TOTAL INDEX (SUM X 100/1,225)	81 77

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project

CAPACITY INDEX

INTERSECTION: BRUNSWOCK ROAD/SUTTON WAY

CONDITION : P.M. Peak Hour

INDEX : 112 LOS E/F Without Project 118 LOS F With Project

Vehicle Movements

By Direction		HOURLY VOLUME	ASSIGNED HOURLY VOLUME PER LANE	HOURLY VOLUME OF CONFLICT MOVEMENTS*
1.	Eastbound right turn	330	330	
2.	Eastbound	(10) 360	360	
3.	Eastbound left turn	390	390	390
4.	Southbound right turn	350		
5.	Southbound	50	410	410
6.	Southbound left turn	10		
7.	Westbound right turn	(50) 20	20	
8.	Westbound	(80) 260	260	(80) 260
9.	Westbound left turn	(50) 40	40	
10.	Northbound right turn	50	50	
11.	Northbound	50	50	
12.	Northbound left turn	310	310	310

SUM OF CRITICAL VOLUMES	(80) 1,370
TOTAL INDEX (SUM X 100/1,225)	118 112

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project

CAPACITY INDEX

INTERSECTION: BRUNSWICK ROAD/FREEWAY 49 SOUTHBOUND ON-OFF RAMP?MALTMAN
CONDITION : P.M. Peak Hour
INDEX : 88 LOS C Without Project 90 LOS C/D With Project

Vehicle Movements

By Direction		HOURLY VOLUME		ASSIGNED HOURLY VOLUME PER LANE		HOURLY VOLUME OF CONFLICT MOVEMENTS*	
1. Eastbound right turn		50					
2. Eastbound	(5)	530		580			
3. Eastbound left turn		140		140		140	
4. Southbound right turn		90					
5. Southbound		40		130			
6. Southbound left turn	(5)	220		220		(5)	220
7. Westbound right turn		240					
8. Westbound	(40)	550	(20)	475		(20)	475
9. Westbound left turn		160					
10. Northbound right turn		130					
11. Northbound		40		240		240	
12. Northbound left turn		70					

SUM OF CRITICAL VOLUMES	(25) 1,075
TOTAL INDEX (SUM X 100/1,225)	88

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project

GTG

CAPACITY INDEX

INTERSECTION: E. MAIN/IDAHO-MARYLAND ROAD/SOUTHBOUND FREEWAY

CONDITION : P.M. Peak Hour

INDEX : 69 - LOS B Without Project 100 D/E With Project

Vehicle Movements

By Direction	HOURLY VOLUME	ASSIGNED HOURLY VOLUME PER LANE	HOURLY VOLUME OF CONFLICT MOVEMENTS*
1. Eastbound right turn	5		
2. Eastbound	(10) 80	85	
3. Eastbound left turn	300	300	300
4. Southbound right turn	420	420	
5. Southbound	220	220	220
6. Southbound left turn	(10) 40	40	
7. Westbound right turn	(90) 90	90	
8. Westbound	(90 130		
9. Westbound left turn	(280) 100	(370 230	(370) 230
10. Northbound right turn	(15) 20		
11. Northbound	20	90	(15) 90
12. Northbound left turn	50		

SUM OF CRITICAL VOLUMES	(385) 840
TOTAL INDEX (SUM X 100/1,225)	100 69

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project

CAPACITY INDEX

INTERSECTION: FREEWAY 49 NORTHBOUND OFF_RAMP/IDAHO-MARYLAND ROAD

CONDITION : P.M. Peak Hour

INDEX : 37 LOS A Without Project 77 LOS B With Project

Vehicle Movements

By Direction	HOURLY VOLUME	ASSIGNED HOURLY VOLUME PER LANE	HOURLY VOLUME OF CONFLICT MOVEMENTS*
1. Eastbound right turn	60		
2. Eastbound	(30) 50	110	
3. Eastbound left turn	-		
4. Southbound right turn	-		
5. Southbound	-		
6. Southbound left turn	-		
7. Westbound right turn	-		
8. Westbound	(460) 210	210	(460) 210
9. Westbound left turn	(90) 10	10	
10. Northbound right turn	(35) 80		
11. Northbound	-	240	(35) 240
12. Northbound left turn	160		

SUM OF CRITICAL VOLUMES	(495) 450
TOTAL INDEX (SUM X 100/1,225)	77 37

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project

CAPACITY INDEX

INTERSECTION: BRUNSWICK - IDAHO-MARYLAND ROAD
CONDITION : P.M. Peak HOur
INDEX : 47 LOS A Without Project 58 LOS A With Project

Vehicle Movements

By Direction		HOURLY VOLUME	ASSIGNED HOURLY VOLUME PER LANE	HOURLY VOLUME OF CONFLICT MOVEMENTS*
1. Eastbound right turn		40	)	
2. Eastbound		50	(50) 100	(50) 100
3. Eastbound left turn	(50)	20		
4. Southbound right turn	(5)	40		
5. Southbound	(10)	280	(15) 320	320
6. Southbound left turn		25	25	25
7. Westbound right turn		20		
8. Westbound		30	(5) 60	(5) 60
9. Westbound left turn	(5)	10		
10. Northbound right turn	(50)	10		
11. Northbound	(180)	230	(230) 240	(230) 240)
12. Northbound left turn		90	90	90

SUM OF CRITICAL VOLUMES 710- (285)	425 570
TOTAL INDEX (SUM X 100/1,225)	58 47

NOTES:

LEVEL OF SERVICE	SUM OF CRITICAL VOLUMES	CAPACITY INDEX
A	1-825	1-67
B	826-965	68-79
C	966-1100	80-90
D	1101-1225	91-100
E	1226-1375	101-112
F	1376+	113+

Computation based on critical movement analysis of the January 1980 Highway Capacity Manual update (TRB Circular 212).

* Generally the greater of movements 2 + 9 vs. 3 + 8 & 5 + 12 vs. 6 + 11. May also include certain right turn volumes.

( ) Added by Project