

facilities with minor additions can accommodate growth up to 2,000 SFRs. Accordingly, the circulation improvements and ongoing items are assigned to all development above the present 1,350 SFR level. Water supply is the most pressing constraint, though sewer and fire facilities are scheduled for expansion as development passes 2,000 SFRs as well. Since these expansions are needed to serve growth above the 2,000 SFR level, the corresponding new development is assigned responsibility for their cost.

The financing plan presented here is also premised on developing parcels paying the full amount of their share of the costs. The District could choose to cover some costs from sources other than levies on undeveloped lots. Financing sources listed above, use charges, redevelopment, and the infrastructure financing district, as well as general District resources, could supplement the funding derived from new development. If these were used to any measure, the actual levies on new development would be lower than the calculations show in the scenarios below.

Financing Scenario 1

As noted above, the infrastructure required to serve growth falls into two categories with respect to timing and funding of the costs. First are the items that are suitable to finance on a pay-as-you-go basis, typically through development fees; these are shown in the first portion of Table 11.3-1, above. These items can either be expanded incrementally, such as water storage tanks, or are of comparatively low cost such that it would be unnecessary to issue debt. The second category of facilities will require large one-time expenditures. For example, the dam construction will require roughly \$6.6 million expended over only a few years. Large capital items, such as the access routes or the dam, are typically financed through debt issuance. Where the improvements are for the purpose of upgrading infrastructure or accommodating growth, the debt is typically secured through assessments or special taxes levied on the benefitting parcels. Pay-as-you-go and debt financed components of scenario 1 are discussed below.

Pay-as-you-go financing

Fees paid at the time of development are envisioned as the principal method of funding the pay-as-you-go items shown above in Table 11.3-1. The specific fee levied could be in any of several

different forms, including connection charges, impact fees, as well as one-time assessments or special taxes. The specific method, however, is secondary in that project costs and the resulting charges to new development will be the same regardless of the particular authority used as the basis for the levy.

For the purposes of this analysis, a single fee amount is calculated to fund the pay-as-you-go items. Though shown in 1995 dollars, the actual fee would increase annually according construction cost inflation. Projecting forward the historical rate of development of roughly 40 SFRs per year results in a 67-year growth period during which the improvements would be added. It should be noted that spreading the fee revenues over years does not require that infrastructure construction take place precisely at the same pace. As a general rule, a jurisdiction can delay allocating fee revenues up to five years from the time of collection. Once allocated, however, expenditures may be delayed for a longer period of time to allow balances to accumulate. Interest on the earnings can also be used to fund the improvements. Similarly, to the extent that the fee fund balance is insufficient to fund capital requirements in a given year, the District could advance construction funding from other funds, engage in short term borrowing or issue debt, such as certificates of participation, to be paid from subsequent years' fee revenues. In fact, some borrowing will be necessary to match Brooktrails' fee revenue stream with the capital schedule. In particular, the improvements needed at 2,000 SFRS will require the Township to carry a balance for several years until fee revenues can accrue for full reimbursement.

Table 11.3-2 summarizes the fee calculations for new development, envisioning a two tier fee structure. Categories are shown for all new development from 1,350 SFRs on, and for new development occurring after 2,000 SFRs. The costs and fees for new development beyond 2,000 SFRs are inclusive of the costs to serve all growth. Fee-funded costs to serve all growth beyond 1,350 SFRs totals \$12.98 million, and is spread across the remaining 2,650 SFRs that can be developed to reach the 4,000 SFR growth maximum. These costs amount to \$4,897 per SFR. Additional fee-funded improvements totaling \$2.5 million will be required to serve growth

**Table 11.3-2
Capital Facilities Fee, Financing Scenario 1
Brooktrails Specific Plan Economic Analysis**

	All New Development	New Development, 2,000-4,000 SFRs	Fee Total, New Development, 2,000-4,000 SFRs
CAPITAL COST PER SFR			
Fee Funded Costs	\$12,978,000	\$2,506,000	
New Development SFRs	<u>2,650</u>	<u>2,000</u>	
Cost per SFR	\$4,897	\$1,253	\$6,150
FEE PER SFR			
Capital Cost per SFR	\$4,897	\$1,253	
Interest Cost per SFR	<u>\$43</u>	<u>\$392</u>	
Fee per SFR	\$4,941	\$1,645	\$6,586
Source: Town Hall Services			

beyond 2,000 SFRs, adding costs of \$1,253. Development beyond 2,000 SFRs would still be responsible for funding their share of the costs allocated to all growth, such that the total costs allocated to the later group of development would total \$6,150. The cost allocation is shown in the first half of the table.

As noted above, some measure of borrowing will still be required to match the fee revenue stream to the timing of improvements. In particular, the capital items needed at 2,000 SFRs will certainly require some form of borrowing. Accordingly, interest is included in the calculations. The calculations also take into account any interest that would accumulate during any years when the fee fund has a positive balance. The difference between the cost per SFR and the facilities fee is a result of borrowing required for timely provision of the larger capital projects funded through fees.

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All new development above 1,350 SFRs would pay a fee of \$4,941. Development occurring after 2,000 SFRs would pay an additional \$1,645, bringing the total for the later development to \$6,586.

The fee calculations shown here are intended to provide an estimate of the additional costs the District may levy on undeveloped parcels at the time development takes place to provide the infrastructure envisioned under the Specific Plan. At such time as the District is prepared to impose additional fees, it will prepare any additional documentation required by the legal authority under which any such fees are levied. The District should review the costs underlying the existing fee structure to insure that they do not overlap with the costs of growth identified in the Specific Plan. In the event that there is overlap between the existing and proposed fees, and appropriate adjustment would be necessary.

Debt Financing

Some of the infrastructure projects will require sufficiently large one-time expenditures that it would be difficult to finance them on a pay-as-you-go basis. Specifically, the access routes and the dam will require outlays of several million dollars. Accordingly, it is anticipated that construction of these items will be financed through the sale of long-term bonds.

A number of financing techniques can be used to issue debt. For the purposes of this analysis, it is assumed that assessment districts would be formed to fund the improvements needed for growth in Brooktrails. Assessments are appropriate for the types of improvements to be financed in a setting with a large number of property owners. Even if other methods, such as Mello-Roos or revenue bonds, were employed, the costs to the owners of undeveloped property would be essentially the same, since the underlying financial parameters would be much the same.

Bond Issues

Financing parameters are shown in Table 11.3-3 for each of the development thresholds at which bonds are projected to be issued. At 1,500 SFRs, or about year 1998 at current rates of growth, financing for the second access route would be needed. Wells and preliminary dam work are projected to be financed at 2,000 SFRs, or around year 2011. Dam construction plus water treatment facilities would be financed at 2,500 SFRs, or around year 2023. The third access route is scheduled for construction at 3,500 SFRs, which may not be until around year 2048.

**Table 11.3-3
Bond Financing Assumptions
Brooktrails Specific Plan Economic Analysis**

	SFR Level of Development			
	1,500	2,000	2,500	3,500
Items Financed	2 nd Access	Wells, Preliminary Dam Work	Dam Construction, Water Treatment Stage 1	3 rd Access
Year Issued ¹	1998	2011	2023	2048
Bond Term, Years	30	30	40	30
Project Cost, 1995 Dollars	\$2,816,000	\$1,905,000	\$6,924,000	\$3,755,000
Project Cost, Future Year Dollars ²	\$3,168,000	\$3,568,000	\$20,763,000	\$30,018,000
Bond Amount ³	\$3,326,000	\$3,746,000	\$21,801,000	\$31,519,000
Annual Debt Cost, Future Year Dollars ⁴	\$296,000	\$333,000	\$1,818,000	\$2,802,000
¹ Assumes 40 SFRs developed annually. ² Based on projected annual cost inflation of 4.0%. ³ Includes issuance cost of 5.0% of project amount. ⁴ Assumes interest rate of 7.5% and includes administration cost of 5.0% of debt service.				
Source: Town Hall Services				

To determine the debt costs, the 1995 capital costs are inflated to future year dollars for the years in which the infrastructure projects would be constructed. This analysis assumes a 4.0 percent inflation rate. The bond amounts shown in Table 11.3-3, also in future year dollars for the year in which bonds are issued, includes a 5 percent allowance for bond issuance costs. Debt service is calculated assuming 7.5 percent interest, currently typical for assessment or Mello-Roos bonds issued to fund capital improvements. Amortization periods are for 30 years, except for the third bond, issued at 2,500 SFRs, which is scheduled for a 40-year term. The sponsoring agency will also incur some costs relating to ongoing administration of the assessments. An administration allowance of 5.0 percent of debt service is added to the debt service to arrive at the total annual debt cost. Again, the debt costs are in future year dollars, reflecting infrastructure cost levels at the time each of the bonds are issued.

Cost per SFR

Table 11.3-4 summarizes the annual debt cost and cost per SFR for the four bond issues. As noted above, all residents of the Specific Plan area will benefit from the additional access routes, whereas the water improvements are related to capacity for growth above 2,000 SFRs. Accordingly, the costs of the access routes will be allocated districtwide, and shared by all parcels in the Specific Plan area. The water-related improvements, on the other hand, are allocated only to parcels developing after the 2,000 SFR existing water capacity is reached.

Table 11.3-4
Debt Cost per SFR
Brooktrails Specific Plan Economic Analysis

	SFR Level of Development			
	1,500	2,000	2,500	3,500
Improvement	Circulation	Water New Development over 2,000 SFRs	Water New Development over 2,000 SFRs	Circulation
Method of Allocation	District Wide			District Wide
First Year of Debt Service	1999	2012	2024	2049
Debt Cost in First Year	\$296,000	\$333,000	\$1,818,000	\$2,802,000
SFRs Sharing in Debt Service	<u>5,880</u>	<u>3,490</u>	<u>3,130</u>	<u>4,380</u>
Cost per SFR, Future Year Dollars	\$50	\$95	\$581	\$640
Cost per SFR, 1995 Dollars ¹	\$43	\$49	\$186	\$77

¹ Based on projected annual cost inflation of 4.0%.

Source: Town Hall Services

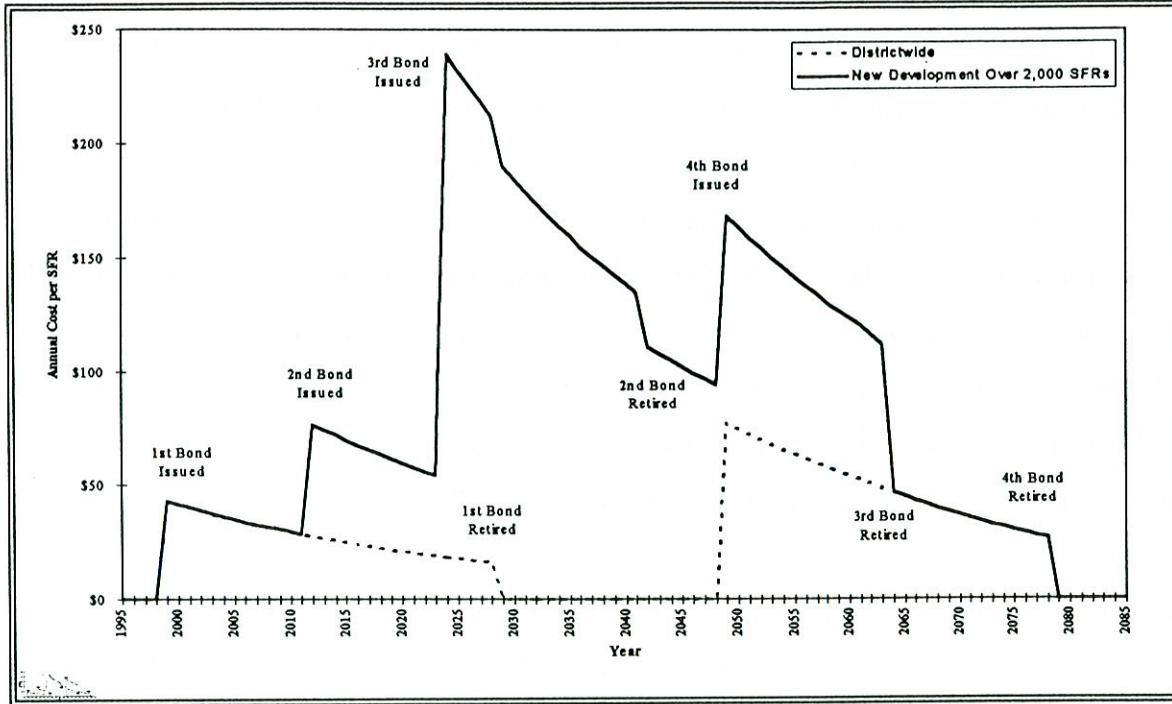
The table shows the first years of debt service, assuming the historical rates of growth, and the dollar amount of the debt cost in that year. Also shown are the number of SFRs sharing in the annual assessments in the years in which each of the bonds are issued. The per-SFR allocation is calculated in light of the development reduction required to achieve the maximum level of growth of **4,000 SFRs** considered in the Specific Plan. Assuming that development continues at the historical rate of 40 SFRs per year, it will be necessary to reduce the number of outstanding development rights by a corresponding average of 30 SFRs per year. This includes reduction through voluntary measures, or attrition, as discussed in Section 11.2. The SFRs shown sharing in the circulation costs represent all parcels in the Specific Plan area (currently 6,000 SFRs), less development reduction. Water improvements will be shared by new development SFRs above 2,000 only, less future development reduction. For both the circulation and water improvements bonds, the number of SFRs sharing in the annual costs will decline over time as a result of development reduction activities.

Costs per SFR are shown in Table 11.3-4 in terms of future year and constant 1995 dollars in the first year of debt service. The constant dollar circulation debt costs allocated to both new and existing parcels amount to \$43 for the bonds issued at 1,500 SFRs, and \$77 for the bonds issued at 3,500 SFRs in the years in which each bond is issued. Costs of the water improvements debt, issued at 2,000 and 2,500 SFRs, will be \$49 for the preliminary dam work and wells, and \$186 for the dam construction and first phase of water treatment.

There will be some overlap in the payment streams for the bonds. Thus, the actual annual assessments in a particular year will depend upon the actual timing of the bond amortization schedules. Figure 11.3-1 illustrates the annual per-SFR costs for the debt costs allocated district-wide and to new development only. The lower (dashed) line shows the annual debt costs for the circulation improvements, which will be spread across existing and new development parcels and levied in two stages corresponding to the two access routes. The upper (solid) line shows the per-SFR costs applied to new development parcels over 2,000 SFRs, being the sum of the circulation costs levied districtwide and the water costs levied to new development over 2,000 SFRs only. Debt service would rise and fall in subsequent years as new debt is issued and old debt is retired. Under the scenario advanced here, all debt would be retired by year 2080.

Costs in Figure 11.3-1 are in constant dollars to permit comparison with today's price and income levels. Note that after each bond issue the costs per parcel decline. Debt service is a fixed dollar amount whereas incomes generally increase with inflation. Although there will be fewer parcels sharing in the costs over time due to the development reduction program, the net effect from general inflation will be a declining constant dollar annual cost.

**Figure 11.3-1
Constant Dollar Annual Debt Cost per SFR
Brooktrails Specific Plan Economic Analysis**



Financing Capacity

A final issue concerning debt issues is financing capacity. If special tax or assessment bonds are used, buyers of bonds will require that the property against which debt is issued be of sufficient value to provide security in the event of nonpayment of annual levies. Typically, a value-to-lien ratio of roughly three- or four-to-one is used as a rule-of-thumb when measuring financing capacity; this means that land value should be at least three times the amount of the debt outstanding.

The average undeveloped lot value in Brooktrails is presently around \$21,000. For the purposes of estimating financing capacity, the value is reduced by the amount of the outstanding or pending liens or fees against the land. Development fees associated with the pay-as-you-go items are projected to be about \$6,600 for development beyond 2,000 SFRs. Average lot value net of additional fees anticipated under the Specific Plan is roughly \$14,400.

Financing capacity is calculated for the year in which the debt burden is the heaviest. This will occur in the years following construction of the dam in roughly year 2023. At this time, debt of roughly \$8.0 million (in 1995 dollars) associated with new development parcels will be outstanding. This estimate excludes the first bond issue which will be nearly retired, but does consider the second and third bonds issued for the dam construction and allocated to growth above 2,000 SFRs. Under the development reduction assumptions, there would be around 3,150 new development parcels under private ownership subject to the second and third bond assessments around the time the dam is built. Allocating the debt among new development parcels sharing in the assessment results in a debt principal per parcel of around \$2,500 per SFR. Comparing the outstanding principal per SFR with the land value net of fees of \$14,400 indicates a debt ratio of over 5:1. This indicates more than adequate capacity to finance the needed improvements, even when the debt requirements are the highest.

This brief analysis of debt capacity should be regarded as highly conservative. First, it makes no accounting for real appreciation of property values which have historically risen faster than inflation. More significantly, the debt was compared to vacant lot value. Given historical rates of growth, by year 2023, around 1,120 of the presently unbuilt lots will have been developed, thus, adding considerably to the aggregate real value property, and corresponding debt capacity, in Brooktrails.

Financing Scenario 2

A second financing scenario is presented here to model the implementation of the Specific Plan if the improvements are financed entirely on a pay-as-you go basis using development fees paid at the time of development. This scenario is presented in light of the recent passage of Proposition 218 on the November 1996 ballot, which placed certain restrictions on the use of assessments as a means of financing public infrastructure. Since Proposition 218 does not place the same restrictions on fees, the fee-only scenario is included to address the possibility that Township might have to rely exclusively on impact fees to fund the projects under the Specific Plan.

The assumptions and structure of the fee-only approach are essentially the same as discussed under the pay-as-you-go section of Scenario 1. Referring back to Table 11.3-1, the projects shown under the debt-financed portion of the table are now included in the pay-as-you-go category. Table 11.3-5 summarizes the development fees under the fee-only scenario. As above, the projects are divided between those associated with all development above 1,350 SFRs and development above 2,000 SFRs. New development from 1,350 to 2,000 SFRs would be subject to a development fee \$6,883 to fund the projects identified in the Specific Plan. Development beyond 2,000 SFRs would pay \$15,183 at the time of development if only one-time fees were used to fund the infrastructure.

**Table 11.3-5
Capital Facilities Fee, Financing Scenario 2
Brooktrails Specific Plan Economic Analysis**

	All New Development	New Development, 2,000-4,000 SFRs	Fee Total, New Development 2,000-4,000 SFRs
CAPITAL COST PER SFR			
Fee Funded Costs	\$17,332,000	\$11,335,000	
New Development SFRs	<u>2,650</u>	<u>2,000</u>	
Cost per SFR	\$6,540	\$5,668	\$12,208
FEE PER SFR			
Capital Cost per SFR	\$6,540	\$5,668	
Interest Cost per SFR	<u>\$343</u>	<u>\$2,632</u>	
Fee per SFR	\$6,883	\$8,300	\$15,183
Source: Town Hall Services			

It is of particular interest to note the interest component of the fee charged to new development beyond 2,000 SFRs. The size and timing of the infrastructure expenditures at 2,000 and 2,500 SFRs, particularly the dam costing \$6.6 million, will require that the Township obtain construction financing from other resources, since fee revenues will have not accumulated in

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sufficient amount to fund the dam by the time it is needed. Impact fee revenues would then reimburse the Township as they accrued.

As indicated by the interest component of the fee calculation, the amount of borrowing needed to finance the dam will be substantial. In fact, calculations in the financing model showed the fee fund running a deficit in nearly all years, with full payback taking place only as the Township approaches buildout. The fee fund deficit reaches a peak of about \$5.8 million in 1995 dollars around the time the dam construction takes place. Given the level of fee fund deficit it is questionable whether development fees are a viable exclusive basis to finance the major improvements.

Development to 5,000 SFRs

The Specific Plan has focused on a preferred growth alternative of 4,000 SFRs. In the event that new development exceeded 4,000 SFRs, the financing cost projections would change accordingly. As was discussed in the Capital Improvements section, some additional infrastructure would be needed if growth were to approach 5,000 SFRs. The added infrastructure, however, would be in the form of a larger capacity of the improvements already needed at 4,000 SFRs; no additional major projects would be constructed. Accordingly, the structure of the financing program applied to 5,000 SFRs would be substantially the same as described in this chapter for 4,000 SFRs.

As was also noted in the Capital Improvement chapter, the added growth from 4,000 SFRs to 5,000 SFRs would result in a lower cost per SFR due to economics in construction and capacity utilization. Under the 4,000 SFR scenario, the capital cost per SFR is estimated at \$10,819. At 5,000 SFRs of development the per SFR cost is \$9,732, or 90 percent of the cost under the 4,000 SFR scenario. This relationship would apply to the financing plan as well, resulting in a corresponding reduction of fees plus debt service allocated to new development.

Brooktrails Property Tax

The level and value of development in Brooktrails will have a bearing on the assessed value in the Township, and will ultimately affect the taxing agencies that rely on property tax to provide public services. A brief analysis of property tax revenue potential in the Township is provided to indicate the revenue impacts of the 4,000 SFR scenario contained in the Specific Plan as compared with an unrestricted development scenario of 5,000 SFRs.

Table 11.3-6 shows the calculation of the average assessed value per SFR for the 4,000 SFR scenario studied in the Specific Plan, and a scenario assuming maximum development of 5,000 SFRs. Lot value is calculated in the first section of the table. Value of developable lots represents the average of lots that could be developed under either scenario. For the 4,000 SFR scenario, the \$25,000 per SFR value reflects that lots in the lower range of districtwide values would be merged or restricted through conservation easements. The \$20,700 value for the 5,000 SFR scenario is the average value of recent undeveloped lot sales. Infrastructure costs to support growth are subtracted from both scenarios. The net values, after deducting costs of development are about \$14,200 and \$11,000 for the respective alternatives.

Under the Specific Plan it is projected that development would rely largely on lot mergers or conservation easements to reduce the number of outstanding development rights. Although development rights on the merged or restricted lots would be retired, the lots would still have a residual value as private open space. A total of 1,730 lots are projected for merger or restriction under conservation easements. Residual value is assumed at \$3,000, resulting in a \$5.2 million residual value districtwide for lots falling under the development reduction program. Compared with the 2,650 SFRs developed under the Specific Plan, this amounts to a residual value of \$1,958 per developing SFR districtwide. This calculation is presented in the second part of Table 11.3-6.

The third section of Table 11.3-6 combines all components of developed lot value. Undeveloped lot value net of capital costs and development reduction residual value are calculated above. The building value used here, \$96,950, is the average assessed value for structures from the assessor's rolls for developed lots sold in the past three years. Accounting for all factors,

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developed values are projected at \$113,100 and \$107,900 for the ~~4,000~~ and 5,000 SFR scenarios, respectively.

Initially, assessed value equals market value. Over time, inflation-adjusted assessed values tend to diminish as inflation has historically exceeded the annual 2% reassessment allowed by Proposition 13. The values shown in the table, therefore, represent values at the time of development or resale. Both the Specific Plan and 5,000 SFR scenarios would be subject to the same reassessment limitations, however, such that this would not affect their comparability.

**Table 11.3-6
Average Value per Developed SFR
Brooktrails Specific Plan Economic Analysis**

	Specific Plan Scenario 4,000 SFRs	Development to 5,000 SFRs
NET VALUE OF DEVELOPED LOTS		
Value of Developed Lots	\$25,000	\$20,700
Added Infrastructure Costs	<10,819>	<9,732>
Net Value	\$14,181	\$10,968
RESIDUAL VALUE OF MERGED LOTS		
Lots Merged	1,730	—
Residual Value	\$3,000	—
Districtwide Residual Value	\$5,190,000	—
Lots Developed	2,650	—
Average Residual Value per Developed Lot	\$1,958	—
VALUE OF DEVELOPED LOTS		
Net Lot Value	\$14,181	\$10,968
Average Residual Value per Developed Lot	1,958	—
Building Value	96,950	96,950
Developed Value	\$113,098	\$107,918
Source: Town Hall Services		

Table 11.3-7 shows the calculation of property tax per SFR, both in total and the share allocated to Mendocino County. Total property tax is multiplied by the maximum allowable one percent tax rate to arrive at the total assessment per SFR, which is further allocated among taxing agencies. Mendocino County receives the largest share of the property taxes generated in Brooktrails, about 28 percent. The county's allocation would be \$316 and \$302, respectively under the Specific Plan and 5,000 SFR scenarios, respectively, indicating a fiscal similarity per SFR between the 4,000 and 5,000 SFR levels of development under the assumptions of this analysis.

**Table 11.3-7
Annual Property Tax Revenue per SFR
Brooktrails Specific Plan Economic Analysis**

	Specific Plan Scenario 4,000 SFRs	Development to 5,000 SFRs
TOTAL ANNUAL PROPERTY TAX		
Assessed Value per SFR	\$113,098	\$107,918
Total Tax rate	<u>1.0%</u>	<u>1.0%</u>
Annual Property Tax Revenue	\$1,131	\$1,079
COUNTY SHARE		
Annual Property Tax Revenue	\$1,131	\$1,079
County Share	<u>28%</u>	<u>28%</u>
County Revenue per SFR	\$316	\$302
<i>Source: Town Hall Services</i>		

Conclusion

The financing scenarios presented here are designed for illustrative purposes for the Specific Plan. Though a number of assumptions have been presented, the details should be regarded as preliminary at this time, particularly given the time horizon extending well into the next century. A number of issues must be addressed by the Brooktrails Township Board of Directors and the community before such a financing plan can be implemented. In practice, the financing plan

will be implemented in stages, responding to level of growth and other circumstances at such time as the capital improvements are needed. At each stage, Brooktrails Township will make the appropriate adjustments to the facilities planned and financing arrangements in response to the needs at the time. Still, the new development can expect to pay for its share of the facilities required for growth, with charges taking the form of both fees and annual debt service assessments, in the order of magnitude outlined in this analysis (see also Chapter 7, *Community Facilities and Services* for implementing information regarding infrastructure).

This section has reviewed various sources of funding that the Brooktrails Township may consider to provide the capital improvements and equipment needed to serve growth. These have been structured into two financing scenarios designed to match the timing of the demand for capacity to a stream of revenues. In so doing, a number of assumptions have been advanced.

- New development will be responsible for funding capital expansions needed to serve growth.
- Existing development will pay a share of the circulation improvements.
- Capital expansions are separated into those financed on a pay-as-you-go basis and those financed through the sale of bonds.
- Capital financed on a pay-as-you-go basis would be funded through development fees, whether in the form of impact fees, connection charges, or other appropriate one-time payments.
- Bonds would be issued for major circulation and water projects when the level of development requires capacity additions.
- Debt service would be paid through special taxes or assessments.
- Development above 5,000 would reduce the per-SFR costs slightly, but would not change the structure of the financing plan.

The first scenario used a combination of fees paid at the time of fees paid at the time of development and assessment bonds issued at the time of construction of major capital projects. Development fees are estimated at \$5,000 and \$6,600 for development occurring before and after 2,000 SFRs.

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Assessments would peak at about \$240 per year for new development above 2,000 SFRs for a few years after the dam is built. Over the buildout horizon, however, assessments would be considerably lower in most years. This scenario appears to be within the Township's financial capacity.

The second scenario relied entirely on impact fees to finance all of the improvements on a pay-as-you-go basis. If funded in this manner, fees for development over 2,000 SFRs would be around \$15,200, including a substantial allowance for interest. Given the financial demands of the large capital outlays, it is questionable whether it is possible to finance the infrastructure entirely in this manner. Some borrowing will be required, and without assessments the District must find alternative sources for construction funding for the dam and other improvements. This raises the subsequent question of Brooktrails' Township CSD's capacity to support such a debt burden secured from its revenue base alone.

The recommendation ⁱⁿ ~~of~~ ^{draft} the Specific Plan is that Brooktrails pursue a financing plan modeled after Scenario 1, utilizing assessment bond financing to fund the major infrastructure improvements and fees to fund the smaller and ongoing items. Although the District may initially raise fees to the levels indicated under financing Scenario 2, in the long term it would be preferable to seek property owner approval for assessment bond financing. As noted above, the magnitude of the major expenditures will still require substantial borrowing. Under a fee-only scenario the District would likely rely on certificates of participation for construction financing. Although ultimately paid from fee revenues, the uncertainty of development timing will require that other District resources be pledged to secure the debt. In the near term, borrowing of at least \$2 million will be needed for the second access route. Financing demands will peak at the time of dam construction, when the District must secure roughly another \$9 million under its general borrowing capability. It is not certain that Brooktrails Township has the general financial capacity to carry this amount of debt. It is probable, therefore, that construction funding may need to rely to some measure on the financing capability created by assessments on the properties in the Township.

12. IMPLEMENTATION AND ADMINISTRATION

While the individual goals and policies of each Specific Plan chapter (i.e., *Environmental Resources, Community Facilities and Services, Community Design*, etc.), contain implementing measures and an identification of the timing and entity responsible for implementing the various goals and policies, this chapter addresses the overall enforcement of goals and policies set forth within the other individual chapters of the Specific Plan. The financing of infrastructure and maintenance of Brooktrails Township facilities is addressed Specific Plan Chapter 11, which is also required to implement the Plan.

12.1 LAND USE REGULATIONS

The Specific Plan will be adopted by the Mendocino County Board of Supervisors and will become the guiding document for policy direction for subsequent development within the Township. The land use areas indicated on the Specific Plan, Zoning Map shall be zoned as called for in the Specific Plan and be in conformance with the *Mendocino County General Plan* and Zoning Ordinance.

12.2 FINANCING

Public facility, infrastructure and maintenance for which the Township is responsible shall be provided for consistent with established procedures now in place, or as otherwise allowed by law and approved by the Township Board of Directors.

12.3 ADMINISTRATION

The County of Mendocino will be the public agency responsible for the administration, implementation and enforcement of the portions of this Specific Plan that fall under its jurisdiction while the Township will be the agency responsible for the implementation and

enforcement of the portions of this Specific Plan that fall under its jurisdiction, all as documented in the various chapters of the Specific Plan.

12.4 AMENDMENT

The California Government Code Section 65453 states that a Specific Plan may be amended as often as deemed necessary by the legislative body. Proposals for amendments to this Plan may be initiated by any individual property owner, by the County or the District in accordance with any terms and conditions imposed during the original approval or in accordance with any terms and conditions pertaining to existing ordinances. Examples of significant changes include:

- The introduction to the Specific Plan area of a new land use designated not contemplated in this original Specific Plan, or in this Specific Plan as subsequently amended.
- Changes to the circulation system or community facility design which would materially affect a land use concept detailed in this Specific Plan, or this Specific Plan as subsequently amended.
- Changes or additions to the Design Guidelines which materially alter the stated intent of this Specific Plan or this Specific Plan as subsequently amended.
- Any change which would result in a significant and adverse environmental impact.

The Plan's integrity can be best protected by requiring documented, empirical evidence of changes in the conditions and assumptions upon which the Plan is founded as the basis for proposed revisions to the Zoning Map.

12.5 NECESSARY FINDINGS

The consideration of any proposed amendment to this Plan shall include the determination of the following findings:

- Changes have occurred in the Township since the approval of the original Specific Plan which warrant approving the proposed amendment.
- The proposed amendment is consistent with the *Mendocino County General Plan*.
- The proposed amendment will result in a benefit to the community at large and land area within this Specific Plan.

- The proposed amendment would not adversely affect the community.
- The proposed amendment would correct an error or an oversight.
- The proposed amendment will not result in any unmitigated environmental impact to adjacent properties.
- The proposed amendment will enable the delivery of services and public facilities to the population within the area of the Specific Plan.
- The proposed amendment is in conformance with the provisions of the California Environmental Quality Act.

12.6 SEVERABILITY

In the event that any regulation, condition, program or portion of this *Brooktrails Township Specific Plan* is held invalid or unconstitutional by a California or Federal Court of competent jurisdiction, such portions shall be deemed separate, distinct and independent provisions, and the invalidity of such provisions shall not affect the validity of the remaining provisions thereof.

12.7 SUBSEQUENT ENTITLEMENTS

Subsequent development of the Township will be governed by the Specific Plan Proposed Zoning Map, County of Mendocino Zoning Code, county permits and requirements, applicable county ordinances and related Township Site Development Standards, and Township Design Review by the Architectural Review Commission and Development Review Board of individual project proposals. Processing of these applications and entitlements will follow County of Mendocino and Brooktrails Township Community Services District processing procedures.

12.8 ENVIRONMENTAL REVIEW

Under the provisions of the California Environmental Quality Act (CEQA), a Program Draft Environment Impact Report (EIR) has been prepared for the Specific Plan. A Final EIR, consisting of responses to public and agency comments during the Draft EIR review and comment period will be prepared prior to adoption of the Specific Plan by the Mendocino County Board of Supervisors. The EIR and Specific Plan are to be considered as companion documents.

Certain infrastructure improvements as called for in the Specific Plan will require separate environmental review, consistent with the findings of the Program EIR. This will include preparation of an EIR at the proper time for the proposed 1,600 acre-foot water impoundment project, and EIRs for each of two new access roads proposed for the Township. In addition, any proposed expansion of the Willits Wastewater Treatment Plant would require environmental review. The timing of preparing these documents will be consistent with the timing of the proposed improvements, and instituted prior to inception of the proposed improvements.

13. RELATIONSHIP TO MENDOCINO COUNTY GENERAL PLAN

The following discussion highlights some of the major *Mendocino County General Plan* policies applicable to Brooktrails Township, and illustrates the relationship between the General Plan policies and the provisions of the *Brooktrails Township Specific Plan*.

The *Mendocino County General Plan* (adopted by the Mendocino County Board of Supervisors, revised April 26, 1993), is Mendocino County's basic planning document. The General Plan provides the blueprint for development throughout unincorporated areas within the County and is the vehicle through which competing interests and needs of the population are balanced and meshed. The General Plan addresses all aspects of development including land use, housing, traffic circulation, seismic safety, noise, recreation open space and conservation, and scenic highways.

The General Plan consistency doctrine was imposed in California in 1971, when the State Legislature directed that zoning and subdivision approvals must be consistent with an adopted General Plan. Thus, the General Plan is a basic land use charter that embodies fundamental land use decisions and governs the direction of future land use within the County's jurisdiction. Local decisions affecting land use and development must conform with the provisions of County's General Plan.

General Plans consist of statements of development policies and include diagrams and text setting forth the objectives, principles, standards and plan proposals. Development policies are contained in a series of "elements," that focus on specific issues such as land use, housing and other subjects. A land use program or project is consistent with a General Plan if, considering all its aspects, it will further the objectives and policies of the General Plan and not obstruct their attainment. With respect to Brooktrails Township, consistency exists between the Township's proposed format for development (as developed in the Specific Plan), and the

General Plan, when the Specific Plan is adopted by the County Board of Supervisors and the various land uses approved are compatible with the objectives, policies, general land uses and programs specified in the General Plan.

The following goals, objectives and policies of relevance to planning for Brooktrails have been extracted from the *Mendocino County General Plan* for inclusion in this Chapter. Each General Plan goal, objective or policy is noted in italics. The Specific Plan goal and or policies that correlate with the General Plan goals, objectives or policies are noted beneath each General Plan goal, objective or policy.

LAND USE AND PLANNING

General Plan

- *Contain commercial development within cohesive units in order that uses established therein will assist and supplement one another. (Commerce Policy 1a)*

Specific Plan

Commercial Development Goal HC-5.2	Commercial Development Policy HC-5.2A
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General Plan

- *Consider commercial centers in areas which are appropriate nuclei of growing rural community centers. (Land Use--Commerce Policy 1c)*

Specific Plan

Zoning Goal LU-4.1	Zoning Policy LU-4.1A
Commercial Development Goal HC-5.2	Commercial Development Policy HC-5.2B

General Plan

- *Ensure that commercial districts in Mendocino County are attractive, enjoyable places to shop and conduct business. (Land Use-Commerce Goal #2)*

Specific Plan

Redevelopment Goal LU-4.2	Redevelopment Policy LU-4.2A
	Redevelopment Policy LU-4.2B
Visual Quality Goal ER-6.2	Visual Quality Policy ER-6.2A
	Visual Quality Policy ER-6.2B
	Visual Quality Policy ER-6.2C
	Visual Quality Policy ER-6.2D
	Visual Quality Policy ER-6.2E
	Visual Quality Policy ER-6.2F

General Plan

- *In areas of anticipated growth and expansion, make ample provision for off-street parking, pedestrian ways, landscaping and undergrounding of utilities prior to loss of such opportunities. (Land Use-Commerce Policy 2c)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1	Transportation and Circulation Policy FS-7.1-1D
Visual Quality Goal ER-6.2	Visual Quality Policy ER-6.2B

General Plan

- *The County shall continue to address and allow home occupations through applicable ordinances. (Home Occupations Goal)*

Specific Plan

Zoning Goal LU-4.1	Zoning Policy LU-4.1B
	Zoning Policy LU-4.1C

General Plan

- *The intent of home occupations shall be to maintain the residential character of the premises or its surroundings on which it is located. (Development Policy 1)*

Specific Plan

Zoning Goal LU-4.1	Zoning Policy LU-4.1B Zoning Policy LU-4.1C
Housing Goal HC-5.1	Housing Policy HC-5.1

- *Identify and conserve lands suitable for prime agricultural production, including timber. Encourage sustained yield management of forest land. (Open Space and Conservation - Conservation Objective)*

Specific Plan

Environmental Stewardship Goal ER-6.1	Environmental Stewardship Policy ER-6.1C
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General Plan

- *Identify and conserve representative plant communities and endangered species. Identify and preserve areas of special biological significance for education and scientific research. (Conservation and Open Space- Plants Objective)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-1	Vegetation and Wildlife Policy ER-6.3-1A Vegetation and Wildlife Policy ER-6.3-1B
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HYDROLOGY AND WATER QUALITY

General Plan

- *Riparian vegetation shall be protected as a flood plain management technique. (Policy 4c)*

Specific Plan

Environmental Stewardship Goal ER-6.1	Environmental Stewardship Policy ER-6.1B
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General Plan

- *Provide incentives for water conservation practices by all users. (Policy b)*

Specific Plan

Utilities Goal FS-7.3-1

Utilities Policy FS-7.3-1B

General Plan

- *The County shall encourage the construction of water storage facilities such as water tanks, small reservoirs and farm ponds for water supply and fire protection. (Policy 5i)*

Specific Plan

Utilities Goal FS-7.3-1

Utilities Policy FS-7.3-A

BIOLOGICAL RESOURCES

General Plan

- *The County shall protect and maintain its native vegetation and wildlife. (Vegetation and Wildlife Goal)*

Specific Plan

Environmental Stewardship Goal ER-6.1

Environmental Stewardship Policy ER-6.1A

Vegetation and Wildlife Goal ER-6.3-1

Vegetation and Wildlife Policy ER-6.3-1A

Vegetation and Wildlife Policy ER-6.3-1D

Vegetation and Wildlife Goal ER-6.3-2

Vegetation and Wildlife Policy ER-6.3-2C

General Plan

- *Identify the type and intensity of land uses which may be compatible with critical wildlife habitats such as wetlands, deer wintering ranges, old growth forests and riparian vegetation. Develop appropriate protection and mitigation methods when considering new development. (Vegetation and Wildlife Policy d)*

Specific Plan

Environmental Stewardship Goal ER-6.1

Environmental Stewardship Policy ER-6.1A

Environmental Stewardship Policy ER-6.1C

General Plan

- *Promote protection of rare and unique vegetation through appropriate zoning or management prescriptions. (Vegetation and Wildlife Policy h)*

Specific Plan

Environmental Stewardship Goal ER-6.1

Environmental Stewardship Policy ER-6.1A

Environmental Stewardship Policy ER-6.1C

Vegetation and Wildlife Goal ER-6.3-1	Vegetation and Wildlife Policy ER-6.3-1A
	Vegetation and Wildlife Policy ER-6.3-1B
	Vegetation and Wildlife Policy ER-6.3-1C
Vegetation and Wildlife Goal ER-6.3-2	Vegetation and Wildlife Policy ER-6.3-2E

General Plan

- *Require enforcement of current animal control ordinance to reduce dog predation on native wildlife. Measures to prevent or mitigate dog predation shall be applied, where appropriate to rural development proposals. (Vegetation and Wildlife Policy g)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-2	Vegetation and Wildlife Policy ER-6.3-2C
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General Plan

- *An animal species officially listed on the State and Federal Rare and Endangered Species Lists shall be protected by seeking and following the recommendations of the California Department of Fish and Game or the U.S. Fish and Wildlife Service. (Vegetation and Wildlife Policy j)*

Specific Plan

Environmental Stewardship Goal ER-6.1	Environmental Stewardship Policy ER-6.1A
Vegetation and Wildlife Goal ER-6.3-2	Vegetation and Wildlife Policy ER-6.3-2B

General Plan

- *Encourage wherever possible, the use of native plants for landscaping of public buildings, parks, roadsides, and other public facilities. (Vegetation and Wildlife Policy k)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-1	Vegetation and Wildlife Policy ER-6.3-1D
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General Plan

- *Discourage the introduction of non-native animal and plant species . . . (Vegetation and Wildlife Policy l)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-1	Vegetation and Wildlife Policy ER-6.3-1A
	Vegetation and Wildlife Policy ER-6.3-1B
	Vegetation and Wildlife Policy ER-6.3-1D
	Vegetation and Wildlife Policy ER-6.3-1E

General Plan

- *Support enforcement of existing laws against the shooting of protected birds and allowing dogs to run loose and destroy wildlife. Recognize that dense residential development or opening of areas to heavy public use will increase these problems. (Vegetation and Wildlife Policy m)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-2

Vegetation and Wildlife Policy ER-6.3-2A
Vegetation and Wildlife Policy ER-6.3-2B

General Plan

- *Any land use change which may have a potential impact on an Area of Special Biological Importance (ASBI) shall first be checked with the Calif. Dept of Fish and Game for further information regarding the significance of the change. (Vegetation and Wildlife Policy n)*

Specific Plan

Environmental Stewardship Goal ER-6.1
Vegetation and Wildlife Goal ER-6.3-1

Environmental Stewardship Policy ER-6.1A
Vegetation and Wildlife Policy ER-6.3-1A
Vegetation and Wildlife Policy ER-6.3-1B

General Plan

- *Protect, maintain, restore and enhance salmon and steelhead spawning and nursery habitat. (Fisheries Policy a)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-2

Vegetation and Wildlife Policy ER-6.3-2D

General Plan

- *Support instream flows adequate to maintain and protect historic fisheries values within all county streams. (Fisheries Policy n)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-2

Vegetation and Wildlife Policy ER-6.3-2D

General Plan

- *Require reasonable and appropriate mitigation measures whenever County approval is required for projects which may degrade or destroy stream habitat. (Fisheries Policy t)*

Specific Plan

Vegetation and Wildlife Goal ER-6.3-2

Vegetation and Wildlife Policy ER-6.3-2D

GEOLOGY, SOILS AND SEISMICITY

General Plan

- *Identify erosion problems along County roads and other facilities and establish a program to eliminate problems. (Soil Resources Policy 2a)*

Specific Plan

Soils and Geology Goal ER-6.5-1

Soils and Geology Policy ER-6.5-1A

Soils and Geology Policy ER-6.5-1B

General Plan

- *Road and building site construction should avoid areas which exceed 30% slopes. (Soils Resources Policy 4b)*

Specific Plan

Environmental Stewardship Goal ER-6.1

Environmental Stewardship Policy ER-6.1A

Soils and Geology Goal ER-6.5-1

Soils and Geology Policy ER-6.5-1A

Soils and Geology Policy ER-6.5-1C

Soils and Geology Goal ER-6.5-2

Soils and Geology Policy ER-6.5-2A

Soils and Geology Policy ER-6.5-2B

General Plan

- *Identify and set guidelines for development of areas with steep slopes and areas having soil limitations, including high erosion hazard, severe soil pressure variations, severe shrink-swell behavior and septic system unsuitability. (Steep Slopes and other Soils Hazards Objective)*

Specific Plan

Environmental Stewardship Goal ER-6.1	Environmental Stewardship Policy ER-6.1A
Soils and Geology Goal ER-6.5-1	Soils and Geology Policy ER-6.5-1A
	Soils and Geology Policy ER-6.5-1B
	Soils and Geology Policy ER-6.5-1C
Soils and Geology Goal ER-6.5-2	Soils and Geology Policy ER-6.5-2A
	Soils and Geology Policy ER-6.5-2B

VISUAL QUALITY AND AESTHETICS

General Plan

- *The County shall protect and enhance its rural character and natural and man-made scenic features. (Scenic Resources Goal)*

Specific Plan

Visual Quality Goal ER-6.2	Visual Quality Policy ER-6.2A
	Visual Quality Policy ER-6.2B
	Visual Quality Policy ER-6.2C
	Visual Quality Policy ER-6.2D
	Visual Quality Policy ER-6.2E
	Visual Quality Policy ER-6.2F

General Plan

- *Continue to identify scenic areas within the County which deserve special protection. (Scenic Resources Policy b)*

Specific Plan

Visual Quality Goal ER-6.2	Visual Quality Policy ER-6.2A
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General Plan

- *Discourage commercial strip development and urban sprawl. (Scenic Resources Policy d)*

Specific Plan

Zoning Goal LU-4.1	Zoning Policy LU-4.1A Zoning Policy LU-4.1B Zoning Policy LU-4.1C
Commercial Development Goal HC-5.2	Commercial Development Policy HC-5.2A
Visual Quality Goal ER-6.2	Visual Quality Policy ER-6.2D Visual Quality Policy ER-6.2E

General Plan

- *Require adequate landscaping of all new residential subdivisions, mobile home parks, and commercial and industrial uses to enhance the scenic qualities of the area. (Scenic Resources Policy i)*

Specific Plan

Visual Quality Goal ER-6.2	Visual Quality Policy ER-6.2B
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NOISE

General Plan

- *Ensure consistency with Land Use Compatibility for Community Noise Environments (p. VI-76)*

Specific Plan

Noise Goal ER-6.6-2	Noise Policy ER-6.6-2A Noise Policy ER-6.6-2B
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SERVICES AND UTILITIES

General Plan

- *Provide for the health, safety and welfare of county residents through the provision of adequate public services and infrastructure to support existing and planned levels of development in the County. (General Public Services Goal #1)*

Specific Plan

Surrounding Jurisdictions Goal LU-4.1	Surrounding Jurisdictions Policy LU-4.1A Surrounding Jurisdictions Policy LU-4.1B
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General Plan

- *Allocate the costs of the public services equitably among present and future residents and others who benefit. (General Public Services Policy 1a)*

Specific Plan

Public Investments Goal FS-7.4-1

Public Investments Policy FS-7.4-1A

Public Investments Policy FS-7.4-1B

General Plan

- *Undeveloped lands with public water and sewer services, within and adjacent to unincorporated towns and adjacent to urban development, are a limited resource and should not be underutilized. The development of such lands with higher density uses or other uses which depend on the availability of those services should be encouraged. (Public Services General Policy 1e)*

Specific Plan

Housing Goal HC-5.1

Housing Policy HC-5.1C

General Plan

- *Permits for new installations of septic tanks shall not be issued in the absence of a long term arrangement for sewage disposal. (Sewage Policy 1d)*

Specific Plan

Utilities Goal FS-7.3-1

General Plan

- *Require that all new development provide access, water supplies fire or fuelbreaks or other provisions deemed necessary. (Fire Policy 1c)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1

Transportation and Circulation Policy FS-7.1-1A

Fire and Police Protection Goal FS-7.2-1

Fire Protection Policy FS-7.2-1A

Fire Protection Policy FS-7.2-1B

TRANSPORTATION AND CIRCULATION

General Plan

- *Existing road corridors should be utilized wherever possible in development of higher capacity corridors. (Circulation Policy 6)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1 Transportation and Circulation Policy FS-7.1-1A
Transportation and Circulation Policy FS-7.1-1B
Transportation and Circulation Policy FS-7.1-1C
Transportation and Circulation Policy FS-7.1-1E

General Plan

- *Consider provisions of equestrian biking and hiking facilities along county roads and bridges consistent with the equestrian and hiking and bicycle trail plans. (Circulation Policy 7)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1 Transportation and Circulation Policy FS-7.1-1D
Recreation Goal FS-7.5 Recreation Policy FS-7.5-1
Recreation Policy FS-7.5-2
Recreation Policy FS-7.5-3

General Plan

- *All traffic corridor development plans should incorporate landscaping as part of any improvements (Circulation Policy 8)*

Specific Plan

Vegetation and Wildlife Goal 6.3-1 Vegetation and Wildlife Policy 6.3-1E

General Plan

- *All new public road construction projects shall provide, where possible, adequate easement for construction of future non-motorized travel. (Circulation Policy 16)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1 Transportation and Circulation Policy FS-7.1-1C
Transportation and Circulation Policy FS-7.1-1D

AIR QUALITY

General Plan

- *The County shall achieve and maintain high levels of air quality to protect public health and agriculture and to provide scenic enjoyment. (Goal)*

Specific Plan

Environmental Stewardship Goal ER-6.1 Environmental Stewardship Policy ER-6.1A
Air Quality Goal ER-6.6-1 Air Quality Policy ER-6.6-1A
Air Quality Policy ER-6.6-1B

General Plan

- *Support the maintenance of current state and federal air quality standards. (Policy I-d)*

Specific Plan

Environmental Stewardship Goal ER-6.1 Environmental Stewardship Policy ER-6.1A
Air Quality Goal ER-6.6-1 Air Quality Policy ER-6.6-1A
Air Quality Policy ER-6.6-1B

HOUSING

General Plan

- *Implement the Housing Element goals and objectives through the land use entitlement process by increasing housing opportunities for moderate, lower and very low income and special need populations, facilitating the conservation of housing stock and providing a suitable living environment for all residents. (Housing Policy 1.4)*

Specific Plan

Zoning Goal LU-4.1 Zoning Policy LU-4.1C
Housing Goal HC-5.1 Housing Policy HC-5.1B

RECREATION

General Plan

- *Interconnect communities, recreational areas and trails planned by the citizen coordinating committee, County and other governmental agencies. (Hiking and Riding Trails Objective #1)*

Specific Plan

Recreation Goal FS-7.5

Recreation Policy FS-7.5-1

Recreation Policy FS-7.5-2

Recreation Policy FS-7.5-3

General Plan

- *Provide for acquisition, development and management methods for trails which will utilize a maximum of user funding and community-contributed service. (Hiking and Riding Objective #2)*

Specific Plan

Recreation Goal FS-7.5

Recreation Policy FS-7.5-1

Recreation Policy FS-7.5-3

PUBLIC HEALTH AND SAFETY

Fire

General Plan

- *Consider weather, fuel and slope in determining the level of fire risk and establishing allowable building density. (New Development-Fire Policy 6)*

Specific Plan

Fire and Police Protection Goal FS-7.2-1

Fire Protection Policy FS-7.2-1B

General Plan

- *Require at least two ingress-egress routes for every major subdivision or parcel division in wildland areas unless necessary fire protection access and escape routes can be provided through other means. (New Development-Fire Policy 9)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1	Transportation and Circulation Policy FS-7.1-1A
Public Safety Goal PS-8.2	Public Safety Policy PS-8.2A
	Public Safety Policy PS-8.2B
	Public Safety Policy PS-8.2C

General Plan

- *Require sufficient right-of-way width in wildland subdivisions and parcel divisions for the construction of two 12-foot traffic lanes and two 8 foot roadside strips on which vegetation should be managed to prevent fire hazard, or other ingress-egress routes may be considered. Responsibility for keeping roadside strips free of fire hazard should be assigned. (New Development-Fire Policy 11)*

Specific Plan

Transportation and Circulation Goal FS-7.1-1	Transportation and Circulation Policy FS-7.1-1A
Fire and Police Protection Goal FS-7.2-1	Fire Protection Policy FS-7.2-1A
	Fire Protection Policy FS-7.2-1B

Flood

General Plan

- *Require that new residential development proposals consider potential inundation from dam failure. (New Development - Flood Policy 4)*

Specific Plan

Public Safety Goal PS-8.1	Public Safety Policy PS-8.1B
	Public Safety Policy PS-8.1C

Seismic

General Plan

- *Prohibit new building sites within Special Studies Zones as defined by the Alquist-Priolo Special Studies Zones Act, unless an appropriate geological investigation establishes sufficient and suitable land area for development. (New Development -- Seismic: Surface Faulting Policy 1)*

Specific Plan

Soils and Geology Goal ER-6.5-2

Soils and Geology Policy ER-6.5-2A
Soils and Geology Policy ER-6.5-2B

General Plan

- *Prohibit structures necessary for public safety or emergency services in areas subject to groundshaking and subsequent failure unless the only alternative sites would be so distant as to thereby jeopardize the safety of the community. (New Development -- Groundshaking and Liquefaction Policy 2)*

Specific Plan

Soils and Geology Goal ER-6.5-2

Soils and Geology Policy ER-6.5-2A
Soils and Geology Policy ER-6.5-2B

ENERGY

General Plan

- *The County shall actively support energy conservation and the use of local renewable energy sources which are environmentally sound. (Energy Goal Number 1)*

Specific Plan

Utilities Goal FS-7.3-2

Utilities Policy FS-7.3-2A

General Plan

- *The County shall make energy efficiency a major consideration in its land use and transportation planning decisions. (Energy Goal Number 2)*

Specific Plan

Utilities Goal FS-7.3-2

Utilities Policy FS-7.3-2B

Overview

The Specific Plan goals and policies appear generally consistent with of the relevant goals and policies of the County General Plan. Inconsistencies with the goals and objectives of the General Plan may arise however, with respect to potential development on steep slopes and maintaining visual quality (rural character), particularly when considering buildout at 4,000 units

(SFRs). Limiting development to 4,000 units in lieu of over 6,000 units as envisioned when the Township was originally conceived, would be expected to facilitate development on parcels that are less steep or otherwise risky to build on, and achieve a community environment, consistent with the goals and policies of the Specific Plan.

As explained on page 2-16 of this Specific Plan, the Plan is also a refinement of the basic development goals and policies of the General Plan. It establishes more detailed and specific goals and policies for development of the Township than is possible in the County's General Plan.

In view of these refining characteristics of the Specific Plan, there are five basic subject areas requiring a General Plan amendment and rezoning. These categories include 1) establishing a Specific Plan (SP) Overlay Combining District (rezoning), 2) implementing a lot reduction program, 3) community design, 4) constructing new second and third access roads, and 5) construction of a new Willits Creek dam and reservoir.

It is therefore proposed that various chapters of the General Plan be amended as follows.

The following is added to page I-117.2 of Chapter I of the General Plan entitled *Land Use Element*, Section E, *General Plan Intent Section*.

“BROOKTRAILS TOWNSHIP SPECIFIC PLAN”

“Brooktrails Township is an unincorporated community located northwest of the City of Willits. Originally a large timber holding, the land was purchased by a land development company which subdivided the property in the 1960's. The development included a subdivision creating over 6,500 lots ranging in size from one-sixth acre (7,260 square feet), to 230 acres. The development was presented to the County of Mendocino as being a 'vacation village resort' to be comprised primarily of second homes with an occupancy rate of no more than 25% at any given time.”

“In recognition of existing development constraints such as steep topography, small parcel sizes, water supply, limited access, etc., the Brooktrails Township Community Services District opted to prepare a Specific Plan for their community. The Specific Plan furthers the goals found in the County's General Plan and focuses a comprehensive planning effort on issues unique to future development of the Brooktrails Township.”

“Major issues addressed in the Specific Plan include the following:”

- “1) Rezoning - an ‘SP’ (Specific Plan) overlay combining district is established for the entire Specific Plan area. This designation will alert interested parties to the fact that a Specific Plan exists for the Brooktrails Township.”
- “2) Lot Reduction Program - this is a voluntary program intended to reduce the total number of residential parcels within the Specific Plan area from approximately 6,000 lots to approximately 4,000 lots. This program relies upon lot mergers through boundary line adjustments, the establishment of conservation easements, and District/County assistance in application processing.”
- “3) Design Guidelines and Site Development Standards - this development review process serves to enhance public health and safety, environmental resources, public amenities, visual quality, and the overall quality of life within the Township by providing detailed development criteria designed specifically for the Brooktrails area.”
- “4) Circulation - two additional access roads are planned in order to provide improved emergency vehicle access to the Township, as well as to relieve existing and future vehicle congestion in general.”
- “5) Water Supply - one additional reservoir is planned to meet domestic water supply requirements for a community of approximately 4,000 units.”

The following is inserted between paragraphs #2 and #3 on page I-83 of Chapter I of the General Plan entitled *Land Use Element, Section C, Public Services, Water Supply*.

“The Brooktrails Township Community Services District provides a domestic water supply for the majority of the Township. It is anticipated that the District can serve up to approximately 2,000 residential units with the existing water supply infrastructure (1996 estimate made by Brooktrails Community Services District). In order to accommodate up to 4,000 residential units as detailed in the Brooktrails Specific Plan, it will be necessary to construct a new dam and reservoir capable of storing 1,600 acre-feet of water.”

The text under the third “*” at the top of page III-12 of Chapter III of the General Plan entitled *Circulation Element, County Roads, Mendocino County Road Program, Anticipated Expenditures*, is amended to read as follows:

*

“Phased second and third access routes connecting the Brooktrails Township with State Route 20 and/or U.S. Highway 101.”

14. SPECIFIC PLAN PREPARATION

Specific Plan Preparation

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With the Assistance Of:

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APPENDIX A
ALTERNATIVE DEVELOPMENT SCENARIOS

APPENDIX A

ALTERNATIVE DEVELOPMENT SCENARIOS

Before briefly describing the Alternative Development Scenarios, a word of explanation about domestic water consumption at Brooktrails is necessary. The term "units" refers to "equivalent single family residential units" (SFR), for water consumption planning purposes. Based on the historic record of water consumption at Brooktrails, one "unit" equals one single family residential unit in terms of actual water consumption (220 gallons per day per SFR). As of May, 1993, the District served 1,350 equivalent SFRs.¹ Under the existing water supply, the State of California Department of Health Services, Office of Drinking Water, has determined that the District has sufficient raw water capacity to serve up to 2,000 equivalent single family residential units.² Statistical data summarized below for each of the Alternative Development Scenarios reflected the number of improved and unimproved lots within Brooktrails at the time of developing the Scenarios in early 1995.

FIXED GROWTH SCENARIO #1: 2,000 UNITS

Scenario #1, a "fixed growth" scenario, assumed no more water connections than currently authorized by the California Department of Health Services. This scenario was analogous to the No Project Alternative which is required for discussion under the California Environmental Quality Act (CEQA) in the Specific Plan Environmental Impact Report. In addition, given the level of discussion of this alternative at the Community Congress in October, 1994, it seemed appropriate to evaluate this alternative in concert with the other alternatives described below for economic comparative reasons. This alternative was recommended for implementation by the Community Vision Focus Group in its report prepared for the Brooktrails Township Board of Directors, June, 1994.

With an existing 2,000-SFR limit in Brooktrails, and allowing 185 SFRs for existing public facilities and the Spring Creek subdivision, 1,815 SFRs remain for total hook-ups. Allowing 93% of the available hook-ups for single-family residences, 6% for duplexes and 1% for four-family units, the total lot count would amount to 1,748 accommodating 1,815 dwelling units. At 2.6 persons per unit, the resident population would amount to 4,719 individuals.

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1. Letter to Paul Williams, Brooktrails Township CSD, from Mark D. Vogel, P.E. August 9, 1993. Also, Brooks and Vogel, Civil Engineering and Land Surveying, *Management Plan Update for Brooktrails Township Community Services District, Water System and Wastewater Collection System*, November, 1993, Table 3-1, page 3-2.
 2. California Department of Health Services, Office of Drinking Water, letter from Bruce H. Burton, P.E., District Engineer, to Paul A. Williams, General Manager, Brooktrails Community Services District, January 12, 1994.

Table A-1 provides a statistical breakdown of each growth scenario.

Future development under the Fixed Growth Scenario would be expected to occur as infill development within the existing lot pattern at Brooktrails.

LOW GROWTH SCENARIO #2: 2,500 UNITS

Scenario #2, a low growth scenario, assumed no new dam construction at Brooktrails for additional domestic water supply, but did assume that some additional water would be available above the existing 2,000-connection cap. Recognizing that hydraulic characteristics vary throughout the township, this additional water would be supplied through wells, additional water tanks, added conservation efforts or some combination of all three.

Under the Low Growth Scenario, future development would generally be expected to occur in areas outside the high-constraint areas. This already seems to be occurring for example, because there are very few residences on slopes exceeding 40%. Realistically, the Low Growth Scenario would be based on a rather random pattern of individual lot selection as now occurs. Any tendency toward emphasizing (clustering) future development in areas already developed with adequate infrastructure, with the benefit of preserving other areas for open space or resource value, should be promoted to the extent practicable.

According to the available information, the sewer trunk main that connects Brooktrails to the City of Willits Wastewater Treatment Plant will reach capacity when approximately 1,900 SFRs have been constructed in the District, triggering the need for replacement. This would be expected to occur under Scenario #2 or either of the other higher development scenarios. Current infrastructure (roads, utilities), restrictions with respect to outlying areas within the Township would need to be assessed in the effort to promote development in areas more readily serviced by existing infrastructure. In addition, pending verification of flow records, this alternative may also trigger the need for expansion of the Willits Wastewater Treatment Plant which treats sewage originating at Brooktrails.

Scenario #2 was based on up to 2,500 SFRs. Allowing 93% of the available hook-ups for single-family residences, 6% for duplexes and 1% for four-family units, the total lot count would amount to 2,229 accommodating 2,315 dwelling units. At 2.6 persons per unit, the resident population would amount to 6,019 individuals.

MEDIUM GROWTH SCENARIO #3: 3,500 TO 4,000 UNITS

Scenario #3 was considered to be a medium growth scenario. This Alternative Development Scenario would be split into two phases as follows:

- 3A: The first phase would provide an adequate water supply for up to 3,500 units by adding capacity to existing reservoirs, adding water wells, and encouraging conservation. This would be expected to provide water for at least five to ten years beyond existing capacity.

TABLE A-1
Relevant Data for Each of the Alternative
Development Scenarios

	SFRs	Units ¹	Lots ²	Population ³	New Reservoir Size (Ac. Ft.) ⁴
Alt. Dev. Scenario #1	2,000	1,815	1,748	4,719	0
Alt. Dev. Scenario #2	2,500	2,315	2,229	6,019	0
Alt. Dev. Scenario #3A	3,500	3,315	3,191	8,619	0
Alt. Dev. Scenario #3B	4,000	3,815	3,673	9,919	1,600
Alt. Dev. Scenario #4	5,000	4,815	4,635	12,519	2,000
Alt. Dev. Scenario #5	6,000	5,815	5,598	15,119	2,500

¹ SFR = "equivalent single family residential unit"; SFR is used for water consumption planning purposes. Excludes Spring Creek and Public Facility SFRs (100 SFRs for public use and 85 SFRs for the Spring Creek Subdivision).

² Assumes 7% multifamily (6% two-family residential, 1% four-family residential - existing is 6% two-family residential and 3% four-family residential), and 93% single-family. Actual number of lots could decrease. Mendocino County does not have specific figures for affordable housing requirements, but target figures are likely to be in the range of 10 to 15%.

³ Assumes 2.6 persons/unit. Source: 1990 Census and Brooktrails Community Services District.

⁴ Brooks and Vogel, Management Plan Update, Nov. 1993, Fig. 4-3.

3B: The second phase would involve construction of a minimum-size reservoir that, together with existing water supplies, could support up to 4,000 units and provide water for fish flows.³ This phase would trigger a major threshold decision since it would involve construction of a new reservoir. This phase would provide water for an additional five to ten years beyond phase 3A.

As with Low Growth Scenario #2, Medium Growth Scenario #3 future development would be expected to occur in areas outside the high-constraint areas. The Medium Growth Scenario would be based on a rather random pattern of individual lot selection as now occurs. Any tendency toward emphasizing (clustering) future development in areas already developed with adequate infrastructure, with the benefit of preserving other areas for open space or resource value, would need to be promoted to the extent practicable. A new sewer main to Willits would be required under Medium Growth Scenario #3A or #3B, and possibly an expansion of the Willits Wastewater Treatment Plant.

3. The California Department of Fish and Game would require that 800 acre-feet be impounded for fish flows for any new reservoir, so this requirement would be applicable to Scenarios 3B, 4 and 5.

Scenario #3A was based on up to 3,500 SFRs. Allowing 93% of the available hook-ups for single-family residences, six% for duplexes and 1% for four-family units, the total lot count would amount to 3,191 accommodating 3,315 dwelling units. At 2.6 persons per unit, the resident population would amount to 8,619 individuals.

Scenario #3B was based on up to 4,000 SFRs. Allowing 93% of the available hook-ups for single-family residences, 6% for duplexes and 1% for four-family units, the total lot count would amount to 3,673 accommodating 3,815 dwelling units. At 2.6 persons per unit, the resident population would amount to 9,919 individuals.

MEDIUM-HIGH GROWTH SCENARIO #4: 5,000 UNITS

Scenario #4 was a medium-high growth scenario. The number of residential units under Scenario #4, as was generally the case with Scenarios #1, #2 and #3, was based on historical trends in voluntary multiple-lot acquisition in Brooktrails, in addition to existing environmental constraints and maintaining the quality of life many residents have referred to in the past, including at the Community Congress held in October, 1994, and as explained in the *Community Vision Focus Group Report*, June, 1994. This Scenario would require the construction of a new dam for additional domestic water use and water for required fish flows.

With a new dam, the existing dam failure inundation zone would increase. Thus the high- constraint area would increase roughly in proportion to the additional water storage capacity. This condition in turn would create additional area to be considered for multiple lot ownership and/or lot reassembly and combining. The 5,000 SFR/unit count would then decrease in proportion to the size of the new impoundment and inundation zone, and any multiple lot ownership and/or lot reassembly and combining in the inundation zone. Scenario #4 would trigger the requirement for a third access road to Brooktrails because Sherwood Road and the southern access route would operate over capacity.

Scenario #4 was based on up to 5,000 SFRs. Allowing 93% of the available hook-ups for single-family residences, 6% for duplexes and 1% for four-family units, the total developed lot count would amount to 4,635 accommodating 4,815 dwelling units. At 2.6 persons per unit, the resident population would amount to 12,519 individuals.

HIGH GROWTH SCENARIO #5: 6,000 UNITS

Scenario #5 was a high growth scenario. Scenario #5 assumed that not all of the remaining (currently 828) unimproved lots in the high-constraint areas would be available for reassembly and combining. Scenario #5 assumed that a new dam would be constructed on Willits Creek to provide a new source of municipal water supply to enable development. This scenario also assumed that the voluntary multiple lot ownership process continues at the past rate of about 11%.

A previously proposed 2,400 acre-foot reservoir on Willits Creek would create a new impoundment area. This impoundment area would be about 52 acres in size, but would not cover any residential lots. For the High Growth Scenario, a new dam would increase the high-constraint area because of the increased inundation zone. The inundation zone would encompass a total of 289 residential lots and four commercially zoned C-1 lots. There would be 228 unimproved and 61 improved residential lots within the inundation zone.

Under the High Growth Scenario, the existing 2,500 acres set aside for conservation use would remain essentially unchanged, with the exception of the new reservoir and use of material to construct the earth dam from borrow areas. With the other alternative development scenarios, less than buildout as originally planned would occur, and any lots in high constraint areas or other locations not improved would be available for reassembly and combining to augment the conservation area if planned for such use. The conservation area under the High Growth Scenario would require more protective mechanisms to ensure its preservation than would otherwise be the case, given the increased use associated with the higher number of residents.

The High Growth Scenario would not result in significant changes to the layout of the road network because of the established lotting pattern and infill development that would occur under this alternative growth scenario. The same would essentially be true for alternatives of reduced population and density. The existing unimproved roads in the Township would need to be paved.

Scenario #5 was based on up to 6,000 SFRs. Allowing 93% of the available hook-ups for single-family residences, 6% for duplexes and 1% for four-family units, the total developed lot count would amount to 5,598 accommodating 5,815 dwelling units. At 2.6 persons per unit, the resident population would amount to 15,119 individuals.

*

APPENDIX B

**ENVIRONMENTAL IMPACT REPORT,
LIST OF MITIGATION MEASURES**

APPENDIX B

ENVIRONMENTAL IMPACT REPORT, LIST OF MITIGATION MEASURES

Listed below are the mitigation measures identified in the Brooktrails Township Specific Plan Draft EIR that will be implemented in conjunction with the development of the Township. This information is provided to supplement the implementing goals and policies of the Specific Plan.

3.1 SOCIAL/CULTURAL ISSUES

3.1.1 LAND USE AND ZONING

No Land Use and Zoning mitigation measures are required. Refer to the Specific Plan, Chapter 4, *Land Use and Planning*, for land use and zoning goals and implementation policies.

3.1.2 TRAFFIC AND CIRCULATION

Mitigation Measures 3.1.2-1

The following roadway improvements will be required by build-out (4,000 equivalent dwelling units) to accommodate future traffic in and around Brooktrails.

- Sherwood Road - Shoulders and left turn lanes from U.S. 101 to Poppy Drive. Pedestrian pathway to be included along entire length. Re-design Birch Street intersection to enhance safety.
- Southern Access Road - Construct new 2-lane arterial between Primrose Dr. and S.R. 20 to relieve Sherwood Road. Signalize intersection with S.R. 20. The alignment will require the purchase of private property, and an environmental impact report.
- Clover Road/Primrose Dr. - New signal required.
- Primrose Dr./Sherwood Road - New signal required
- Primrose Drive - Traffic volumes on Primrose Drive between the Southern Access Road and Sherwood Road are expected to increase to as high as 900 vehicles during the peak hour, a 25 fold increase. In order to help manage this traffic, Primrose Dr. should be upgraded to enhance safety for residents and vehicles alike. This includes shoulders, pedestrian pathways, left turn bays, and horizontal and vertical geometric improvements especially near Lake Ada Rose.

- State Route 20 - While entirely outside Brooktrails, S.R. 20 between the Southern Access Road and Main Street (U.S. 101) will need to be expanded to a 4-lane arterial by buildout.

Mitigation Measure 3.1.2-2

Construct new 2-lane arterial between Primrose Dr. and S.R. 20 to relieve Sherwood Road Signalize intersection with S.R. 20. The alignment will require the purchase of private property, and an environmental impact report.

- Implement all of the recommendations in the Brooktrails Evacuation Plan. This includes one new all-weather route along the Meadowlark Trail in northeast Brooktrails, and a new southern access route. These corridors should be maintained to accommodate all vehicles in Brooktrails, and all residents should be notified of the evacuation route to use in the event of an emergency.

Mitigation Measure 3.1.2-3

It is recommended that current off-street parking requirements and on-street regulations be enforced by the Mendocino County Sheriff's Department. In addition, on-street parking bays should be provided throughout the Township where feasible (See Figure 3.1.2-7B). The off-street requirements identified in the Specific Plan (Chapter 10, Community Design) should be implemented.

Mitigation Measure 3.1.2-4

It is infeasible for the County of Mendocino or the Township to implement possible mitigation measures. The design and implementation of such measures would be under the jurisdiction of Caltrans.

Long-term Mitigation

A second access route will be needed by 1998 to avoid Sherwood Road exceeding LOS C. An evaluation of potential second access route alignments showed that both routes #1 (Brooktrails Drive Extension) and #3 (S.R. 20 Connection) provide the greatest (and roughly equal) functional benefits to Brooktrails (see Figure 3.1.2-9). The City of Willits General Plan Revision (1992) states a preference for route #3 in combination with an Eastside Bypass connected to Willits via Commercial Street. Notably, this alternative would not provide Brooktrails with a direct connection to the future Bypass. The decision on which access route to select is inextricably linked to traffic conditions in Willits and to the status of the future U.S. 101 Bypass.

3.1.3 VISUAL QUALITY AND COMMUNITY CHARACTER

Mitigation Measure 3.1.3-1

The planning and design of projects slated for construction within the Township should conform to the goals and policies for Community Design as contained within the Community Design chapter of the Brooktrails Township Specific Plan. Conformance review would occur with each development proposal and decisions under the provisions of the Community Design chapter of the Specific Plan, inclusive of the Design Guidelines

and Site Development Standards. Conformance review would occur during the Township's design review process consisting of the Architectural Review Commission and District Architect, prior to the issuance of grading and construction permits by the County of Mendocino.

3.1.4 UTILITIES

Mitigation Measure 3.1.4-1

Where possible, allow for off-grid energy systems.

Mitigation Measure 3.1.4-2

Allow for new technologies such as satellite delivery systems and improved accommodation for digital communication.

3.1.5 PUBLIC SERVICES

Mitigation Measure 3.1.5-1

Any requirements for increased Sheriff's Department staffing due to the increase of population presented by full buildout would have to be determined from reviews conducted on a yearly basis, until the number of new residences in Brooktrails has stabilized. The Township would coordinate with the Sheriff's Department as they conduct their yearly reviews to assure that any mutual concerns are addressed. Additional funding for additional manpower and/or equipment may only be provided by the Township as the need is identified in the Sheriff's Department reviews. This mitigation would reduce this impact to insignificant levels.

Mitigation Measure 3.1.5-2

In the event that buildout would generate the need for expanded or new school facilities, those responsible for new construction in the Township would pay a per unit impact fee, in accordance with the Willits Unified School District requirements, to provide a local share for funding the necessary expansions. The School District presently charges \$1.50 per square foot for expanding facilities.

Mitigation Measure 3.1.5-3

Policy FS-7.2-2A of the **Brooktrails Township Specific Plan** requires the Township to "promote recycling of consumer and business waste to reduce landfill requirements and lengthen service of existing landfills, and to meet mandatory wastestream reduction requirements established by state law." The Township Board of Directors had adopted Resolution No. 1996-12, which specifies District policy for waste reduction and directs the Township General Manager to implement those policies, inclusive of the following:

- 1) Establish waste recycling bins at the following District facilities:
 - Office complex
 - Summer Lake
 - Lake Emily
 - Lake Ada Rose
- 2) Require that future copiers acquired by the District have two-sided printing option.
- 3) Require that District Offices use recycled content copy paper when it is cost effective.

- 4) Provide for recycling bins at all future multiple-family and commercial units as a part of development.

Such measures would serve to reduce Brooktrails contribution to the total wastestream. Quantification of any potential reductions of the Township's future solid waste generation through the application of these measures to buildout cannot be estimated at this time. In addition, the District is in the process of entering into a Solid Waste Franchise Agreement.

3.1.6 CULTURAL RESOURCES

Mitigation Measure 3.1.6-1

Any construction, grading and/or excavation within a 300 meter radius of the MEN-383 site location shall be monitored by an archaeologist. In the event that artifacts or features are discovered, the appropriate disposition of such materials as determined by the archaeologist should be coordinated with local Native American representatives and in accordance with the implementation policies of Chapter 9 of the Specific Plan, Cultural Resources.

Mitigation Measure 3.1.6-2

Should any historic or prehistoric cultural resources be encountered during construction, work should halt temporarily while a qualified archeologist assesses the significance of the find and develops a suitable mitigation plan, if required, in accordance with the implementation policies of Chapter 9 of the Specific Plan, Cultural Resources.

3.2 PHYSICAL/BIOLOGICAL ISSUES

3.2.1 GEOLOGY, SOILS AND SEISMICITY

Mitigation Measure 3.2.1-1

In response to Soils and Geology Policies ER-6.5-1A, -1B and -2A, require site-specific minimal grading concepts, stability analysis and stabilization procedures, and design criteria for cut-slopes and fill-slopes, as recommended by a California Certified Engineering Geologist and Geotechnical Engineer during the design phase for each site inclusive of geologically constrained areas of the Alquist-Priolo zone, landslide areas and steep slopes.

- A. During the design phase for each site where construction is to occur or where substantial amounts of cutting or filling are to occur, the developer's registered geotechnical engineering consultant shall provide documentation that:
1. site-specific stability analyses has been conducted in the area proposed for grading to establish the design criteria for proposed cut or fill slopes, and
 2. the recommended criteria have been incorporated in the design of cut and fill slopes.
- B. During grading for these sites, the registered geotechnical professional shall be on the site:
1. to supervise the implementation of slope stability designs,
 2. to observe areas of potential instability,

3. to supervise slope repairs, as necessary, and
 4. to supervise compaction testing.
- C. The registered geotechnical engineering consultant should prepare an "as built" map, to be filed with the County, showing details of the site geology, the location of foundations, retaining walls, sub-drains and cleanouts, the results of stability analyses and compaction tests, and documenting the following requirements.
1. The CUBC Seismic Zone 4 standards shall be the minimum acceptable standards for stability of new or altered slopes.
 2. Only the minimum amount of grading necessary for obtaining fill material, stabilizing slopes, and installing structures or access shall be performed in areas where slopes are steeper than 20 percent, to avoid the creation of potentially unstable slopes in borrow areas or at the construction sites.
 3. Cut-slopes in alluvium, and fill-slopes shall be no steeper than 3:1 (horizontal to vertical) unless the design-level geotechnical investigation can demonstrate the satisfactory stability of a steeper configuration.
 4. Cut-slopes in bedrock shall be no steeper than 2:1 (horizontal to vertical) unless the design-level geotechnical investigation can demonstrate the satisfactory stability of a steeper configuration.
 5. Side-hill fills, if used, shall be keyed, provided with surface and subsurface drainage, and compacted according to the design specifications of the slope stability analyses for the site provided by the geotechnical professional.

Mitigation Measure 3.2.1-2

In response to Soils and Geology Policies ER-6.5-1A and -1B, during design review, require an Erosion and Sediment Transport Control Plan, designed by an erosion control professional, or landscape architect or civil engineer specializing in erosion control, that would meet the following objectives for the grading and construction period of building projects in the Township, and throughout the lifetime of each project.

- A. The Erosion and Sediment Transport Control Plan shall be submitted, reviewed, implemented and inspected as part of the approval process for the grading plans for each project.
- B. The Plan shall be designed by the developers' erosion control consultant, using concepts similar to those developed by the Association of Bay Area Governments, as appropriate, based on the specific erosion and sediment transport control needs of each area in which grading and construction is to occur. Those concepts include, but are not necessarily limited to the following items.

Confine grading and activities related to grading (demolition, construction, preparation and use of equipment and material storage areas, staging areas, preparation of access roads,) to the dry season, whenever possible.

If grading or activities related to grading need to be scheduled for the wet season, ensure that structural erosion and sediment transport control measures are ready for

implementation prior to the onset of the first major storm of the season.

Locate staging areas outside major streams and drainage ways.

Keep the lengths and gradients of constructed slopes (cut or fill) as low as possible.

Discharge grading and construction runoff into small drainages at frequent intervals to avoid buildup of large potentially erosive flows.

Prevent runoff from flowing over unprotected slopes.

Keep disturbed areas (areas of grading and related activities) to the minimum necessary for demolition or construction.

Keep runoff away from disturbed areas during grading and related activities.

Stabilize disturbed areas as quickly as possible, either by vegetative or mechanical methods.

Direct runoff over vegetated areas prior to discharge into public storm drainage systems, whenever possible.

Trap sediment before it leaves the site with such techniques as check dams, sediment ponds, or siltation fences.

Make the contractor responsible for the removal and disposal of all sedimentation in retention ponds, that is generated by grading and related activities of the project.

Use landscaping and grading methods that lower the potential for down-stream sedimentation. Modified drainage patterns, longer flow paths, encouraging infiltration into the ground, and slower storm-water conveyance velocities are examples of effective methods.

Control landscaping activities carefully with regard to the application of fertilizers, herbicides, pesticides or other hazardous substances. Provide proper instruction to all landscaping personnel on the construction team.

- C. During the installation of the erosion and sediment transport control structures, the erosion control professional shall be on the site to supervise the implementation of the designs, and the maintenance of the facilities throughout the demolition, grading and construction period.

- D. The erosion control professional shall prepare an "as built" erosion and sediment control facility map, to be filed with the Township, showing details of the biological and structural elements of the plan, and providing an operating and maintenance schedule throughout the operational period of the project.

Mitigation Measure 3.2.1-3

In response to Soils and Geology Policies ER-6.5-1A and -1C, during design review, require site-specific soil suitability analysis and stabilization procedures, and design criteria for foundations, as recommended by a California-registered soil engineer during the design phase for each site where the existence of unsuitable soil conditions is known or suspected.

- A. During the design phase for each site where the existence of unsuitable soil conditions is known or suspected, the developer's registered soil engineering consultant shall provide documentation to the Township that:
1. site-specific soil suitability analyses has been conducted in the area of the proposed foundation to establish the design criteria for appropriate foundation type and support, and
 2. the recommended criteria have been incorporated in the design of foundation.
- B. During grading for these sites, the registered soils professional shall be on the site:
1. to observe areas of potential soil unsuitability,
 2. to supervise the implementation of soil remediation programs, and
 3. to verify final soil conditions prior to setting the foundations.
- C. The registered soils engineering consultant shall prepare an "as built" map, to be filed with the County, showing details of the site soils, the location of foundations, sub-drains and cleanouts, the results of suitability analyses and compaction tests.

Mitigation Measure 3.2.1-4

In response to Soils and Geology Policy ER-6.5-2A, secure the recommendations of a site-specific fault trace location and activity level investigation, performed by a California Certified Engineering Geologist, a California Registered Geologist or California Registered Geotechnical Engineer, to be incorporated in the design of all structures intended for human occupancy within the Earthquake Fault Zone that crosses the Township.

- A. The minimum setback from an active fault trace should be 50 feet, unless the site-specific fault investigation can demonstrate satisfactory safety conditions closer to the trace.

- B. Additional seismic-resistant earthwork and construction design criteria shall be incorporated in the project as necessary, based design review and on the site-specific recommendations of a California Certified Engineering Geologist in cooperation with California Registered Geotechnical and structural engineering professionals.
- C. During site preparation, the registered geotechnical professional shall be on the site to supervise implementation of the recommended criteria.
- D. The geotechnical consultant shall prepare an "as built" map/report, to be filed with the County, showing details of the site geology, the location and activity level of fault traces, and the type and location of seismic-restraints used in the project facilities.

Mitigation Measure 3.2.1-5

In response to Soils and Geology Goal ER-6.5-2 and Policy ER-6.5-2B, require site-specific seismic-restraint criteria, as recommended by a California-registered geotechnical or structural engineer, to be incorporated in the design of slopes, foundations and structures for projects in the Township.

- A. The minimum seismic-resistant design standards for all proposed facilities shall conform to the CUBC Seismic Zone 4 Standards.
- B. Additional seismic-resistant earthwork and construction design criteria shall be incorporated in the project as necessary, based on design review and the site-specific recommendations of a California Certified Engineering Geologist in cooperation with California-registered geotechnical and structural engineering professionals.
- C. During site preparation, the registered geotechnical professional shall be on the site to supervise implementation of the recommended criteria.
- D. The California Certified Engineering Geologist consultant shall prepare an "as built" map/report, to be filed with the County, showing details of the site geology, the location and type of seismic-restraint facilities, and documenting the following requirements, as appropriate.
 - 1. Engineering analyses shall demonstrate satisfactory performance of bedrock, alluvium and fill where they form part or all of the support for structures.
 - 2. Analysis of soil expansion potential and appropriate remediation (compaction, removal, etc.) shall be completed prior to using expansive soils for foundation support.

3. Roads, foundations and underground utilities in fill or alluvium shall be designed to accommodate settlement or compaction estimated by the site-specific investigations of the geotechnical consultant.

Mitigation Measure 3.2.1-6

To offset the effects of seismic groundshaking hazards, implement Mitigation Measures 3.2.1-1 through 5. In addition, this EIR should remain available at the Township for potential builders and/or lot purchasers.

Mitigation Measures 3.2.1-7

In response to Soils and Geology Goal ER-6.5-1 and -2, require a detailed Earthquake Preparedness Plan to be prepared by the dam operations personnel and submitted for review and approval by the County.¹

- A. The specific language of earthquake preparedness plans varies, but should include the following items:
 1. Ensuring existing and proposed seismic designs meet current County, State and Federal standards, where applicable.
 2. Making structural and non-structural elements secure from the effects of expected levels of groundshaking.
 3. Assigning specific personnel primary and backup responsibilities to be carried out during a seismic emergency.
 4. Providing supplies of emergency water, food and shelter for project personnel to remain on-site for at least three days.
 5. Providing training for personnel in First Aid, CPR and other emergency response procedures.
 6. Carrying out practice drills of emergency response procedures.
 7. Preparation of an inundation zone map and evacuation plan.
- B. Township public safety and maintenance facilities should be located out of the dam failure inundation zone.

3.2.2 HYDROLOGY AND WATER QUALITY

Mitigation Measure 3.2.2-1

In response to Hydrology and Water Quality Policies ER-6.4A and B, require site-specific minimal grading concepts, stability analysis and stabilization procedures, and design criteria for cut-slopes and fill-slopes, as recommended in Soils and Geology Mitigation Measure 3.2.1-1, and an Erosion and Sediment Transport Control Plan, as required in Soils and Geology Mitigation Measure 3.2.1-2.

1. Red Cross Disaster Resource Center, *Corporate Disaster Planning Guide*, Golden Gate Chapter, American Red Cross, San Francisco, 1986.

3.2.3 BIOLOGICAL RESOURCES

Mitigation Measure 3.2.3-1

Tree and native vegetation removal for lot development shall be minimized to the extent feasible. Fire-resistant native plant landscaping shall be encouraged to provide habitat with high value to wildlife that would act as a buffer to natural open space areas and retain the forest character of Brooktrails. These measures will be enforced during the development review process as called for in the Specific Plan.

Mitigation Measure 3.2.3-2

Surveys for north coast semaphore grass shall be conducted in May during lot development review and prior to the development of residential lots containing moist meadows. If north coast semaphore grass is found to occur, development shall be sited to avoid semaphore grass.

Mitigation Measure 3.2.3-3

To avoid the nesting season of raptors, migratory birds and other sensitive birds, all tree removals shall take place between September 1 and February 1, if feasible.

- a) If it is established (and confirmed by the agencies) that suitable habitat is not present on the project site, then no northern spotted owl constraints would be placed on project development. However, habitat could become suitable over the life of the project. Therefore, consideration should be given to the long-term management of the forest to accommodate this species should it become established.
- b) If it is established that suitable habitat exists on the project site, a forest management plan shall be implemented. A 50/11/40 formula has been established for timber management areas that can be used as a guideline. This formula suggests that 50 percent of the total project area be set aside with all conifers 11 inches or greater in diameter left with an average 40 percent canopy closure. (This formula is based on a forest dominated by conifers.)
- c) If an active nesting territory is established, non-disturbance buffer zones and limited impact areas will need to be established. In relation to timber harvest, a 70-acre management area would need to be established around an active nest site. This would require that no harvest be allowed within 18 acres around the nest and overstory canopy closure could not be reduced below 60 percent in the remaining 52 acres. No guidelines have been established for understory vegetation (e.g. stands of tanbark oak and madrone).

- d) Currently, the habitat areas with the most potential for spotted owl occurrences are the riparian corridors. Therefore, development in these areas shall be avoided and adequate buffer zones be established through permanent natural open space designation.

If tree removal between February 1 and September 1 is required, a pre-construction season survey shall be conducted to identify the presence, or lack thereof, of nests of raptors, migratory birds or other protected species. If no nests are identified in trees to be removed, no further mitigation is necessary. If nests are identified, CDFG shall be contacted and appropriate protocols for nest relocation shall be implemented.

For species protected under the Endangered Species Act, appropriate protocol consists of nest removal during the non-nesting season (see 4.7-5(a)). For birds protected under the Migratory Bird Treaty, protocols do not exist in published regulations, and need to be developed on a case by case basis in consultation with the CDFG and the USFWS.

Mitigation Measure 3.2.3-4

Implementation of the following mitigation measures would reduce the impact to an insignificant level by a) ensuring that measures would be implemented to control erosion and sedimentation (see Section 3.2.1, Soils, Geology and Seismicity), b) that disturbance to habitat of sensitive species would be avoided or minimized, and c) that construction would be timed to avoid disturbance of sensitive species during their breeding or migration seasons.

Mitigation Measure 3.2.3-5

Implementation of the following mitigation measures would reduce the above impact to an insignificant level by ensuring protection of sensitive species and aquatic life in the creeks during construction:

Implement the following Mitigation Measures to ensure reduction or avoidance of long-term sedimentation in creeks and other human disturbance impacts within Brooktrails Township.

- a) Unauthorized trails leading into creek channels shall be obliterated by new plantings. Fencing and posting of signs shall be installed in consultation with CDFG, to educate the public and route access from sensitive areas.
- b) Direct public access to creek banks and channels shall not be permitted except over crossings and for carefully sited view points.

Mitigation Measure 3.2.3-6

Natural open space should be left in a configuration that would provide corridors and linkages with natural areas outside the Township, to allow the movement, migration, and dispersal of wildlife between areas.

3.2.4 AIR QUALITY

Mitigation Measure 3.2.4-1

All construction contracts should include the following requirements:

- Water all active construction areas at least twice a day, or as needed to prevent visible dust plumes from blowing off-site.
- Use tarpaulins or other effective covers for on-site storage piles and for haul trucks that travel on public streets.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep all paved access routes, parking areas and staging areas daily (preferably with water sweepers).
- Sweep streets daily (preferably with water sweepers) if visible amounts of soil material are carried onto public streets.
- Wash trucks leaving construction site.
- Select architectural coatings with low ROG emission rates.
- Properly tune and maintain construction equipment.
- Develop a trip reduction plan to achieve a minimum average vehicle ridership (AVR) of 1.5 for construction employees.
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- Minimize obstruction of through traffic lanes.
- Schedule operations affecting traffic for off-peak hours to the extent possible.
- Develop a traffic plan to minimize traffic flow interference from construction activities.

If the working area of any construction site exceeds four acres at any one time, implement the following measures in addition to those above:

- Apply (non-toxic) soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- Limit construction site vehicle speed to 15 miles per hour (mph) on unpaved areas.
- Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measures 3.2.4-2

Implement the following Transportation Demand Management measures:

Mobile-Source Emissions

- Provide on-site transit stops to link the development to major in-County destinations.
- Provide ride-matching services to facilitate car pool formation among residents.
- Provide space for banking and postal services in the project commercial uses.
- Install 220V electrical outlets in each garage in anticipation of the potential future use of electrical vehicles.

Stationary-Source Emissions

- Provide heating systems powered by propane, heating oil or electricity to serve as the primary heating source of the proposed new homes, with EPA Phase II woodburning stoves available only as a back-up source.
- Retrofit existing residential units with clean burning Phase II catalytic wood-burning stoves.
- Install exterior electrical outlets at the front and back of each new home for electrical yard equipment.
- Incorporate passive solar design and solar heaters.

3.2.5 NOISEMitigation Measure 3.2.5-1

Construction should be limited to between 7 A.M. and 6 P.M., Monday through Friday, to minimize disruption due to noise.

Construction specifications should include a provision requiring adequate mufflers on trucks and other construction equipment.

Construction crews should be transported to the construction site by a shuttle bus from a parking area in the community to reduce traffic movements and noise on Sherwood Road.

Mitigation Measure 3.2.5-2

Install sufficient acoustic insulation in the proposed Brooktrails residences along Sherwood Road to assure that maximum noise levels in any inhabitable room will not exceed 45 dBA L_{dn} .