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Via Hand Delivery and E-mail

Jay Brown, Chair
Monterey County Planning Commission
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Re: 2007 Monterey County General Plan DEIR
PLN070525, SCH2007121001

Dear Chairman Brown and Members of the Commission:

On behalf of LandWatch Monterey County, we offer the following comments on the Final EIR for the 2007 Monterey County General Plan ("2007 General Plan"). We appreciate that the Planning Commission is currently reviewing the Final EIR and proposed changes to the 2007 General Plan itself. We would like your deliberations and recommendations to the Board of Supervisors to be informed by our concerns, analysis, and the expert opinion we include herein.

I. Summary

EROSION AND SEDIMENTATION: Although LandWatch submitted extensive comments on the DEIR, these comments were not reasonably addressed by the Final EIR. Accordingly, LandWatch asked Robert Curry, Ph.D, P.G, to review the EIR's analysis and conclusions and to assess the adequacy of 2007 General Plan policies and mitigation measures. Dr. Curry's opinion letter is attached.

Dr. Curry concludes that the EIR does not adequately address impacts from erosion and sedimentation, particularly those associated with the extensive new cultivation of marginal sloped lands in the Salinas Valley, and he proposes policy revisions to address this:

- The EIR does not adequately describe baseline conditions, particularly the failure of the existing regulations to prevent water quality impacts. The Draft EIR fails to acknowledge that existing conditions *already* constitute a significant cumulative impact, based on the DEIR's announced significance criteria, which include failure to meet water quality standards. This failure is

strikingly evident in the extensive listings of impaired waters under the Clean Water Act section 303(d) program. It is also evident from comments submitted by the Regional Water Quality Control Board, which acknowledge cumulatively significant impacts, and statements by the RWQCB that their regulatory efforts have not succeeded.

- Dr. Curry concludes that the projected new cultivation of marginal and sloped lands, particularly in the uplands around the Salinas Valley will contribute substantial additional erosion and sedimentation.

- Despite the failure of existing regulations to control the problem, the EIR incorrectly concludes that existing regulations and a handful of inadequately specified 2007 General Plan Policies will prevent future significant impacts. This conclusion is not and cannot be supported by the EIR or the 2007 General Plan.

- Dr. Curry makes specific suggestions to revise a number of policies and mitigation measures to address erosion and sedimentation impacts. These revisions include specific performance standards, deadlines for implementation of proposed programs and ordinances, and interim measures pending these ordinances and programs.

We ask that the Planning Commission adopt Dr. Curry's recommended revisions.

SALINAS VALLEY WATER SUPPLY: The Draft EIR failed to meet CEQA's clear requirements to evaluate the adequacy of water supply on a basin-by-basin basis, taking into account competing demands from incorporated areas. The Final EIR purports to rectify this with a water balance analysis for the Salinas Basin that projects a tiny surplus as of 2030, consistent with the conclusion in the Draft EIR that there will be no significant impacts related to water supply, overdrafting, or salt water intrusion through 2030 in the Salinas Basin. This belated analysis is deeply flawed for the following reasons:

- The analysis is based on baseline and projected water usage from the 2001 Salinas Valley Water Project ("SVWP") EIR. The SVWP EIR assumed that the would be a net 1,849 acre decrease in agricultural land, whereas the 2007 General Plan EIR projects a net increase of at least 7,682 acres. Water for this increased agricultural acreage will eradicate the tiny surplus projected by the Final EIR and place the basin into substantial overdraft.

- The FEIR's attempt to explain that the SVWP EIR remains an adequate basis to project future water supply and demand notwithstanding the increase in agricultural acreage double counts the savings the SVWP EIR projected from more efficient irrigation and changes in cropping patterns.

- The SVWP EIR baseline 1995 pumping assumptions understate actual pumping as of 1995 by 44,268 afy, based on annual pumping data reported by the MCWRA and included in the DEIR. The SVWP's understatement of baseline pumping is two orders of magnitude greater than the 542 afy projected 2030 surplus in the FEIR. Despite this, the FEIR cites this actual pumping data to support its contention that the SVWP EIR "remains a solid basis" for evaluating future demand.

- The FEIR claims that the urban demand projections in the SVWP EIR are consistent with the FEIR's belated water balance analysis, even though the FEIR projects a 46% greater urban population than the SVWP EIR. To make this claim, the FEIR "restates" the SVWP's urban demand projection using fundamentally different population and water use assumptions, and making unexplained "minor adjustments" that are an order of magnitude larger than the FEIR's projected 542 afy surplus. The FEIR uncritically presents multiple inconsistent projections of urban demand without explanation.

Case law is clear that the FEIR's presentation for the first time of water balance data that should have been in the DEIR requires recirculation of the DEIR. The public is entitled to an opportunity to comment on and receive responses regarding the clear inadequacies of this information to support the EIR's conclusions that there will be an adequate water supply in the Salinas Valley.

WINERY CORRIDOR: LandWatch and others have objected to the proposed exemption of development in the Agriculture and Winery Corridor ("AWCP"). In response, the FEIR has finally acknowledged that all development must be subject to discretionary review for potential impacts to biological resources and traffic, because the 2007 General Plan EIR does not and cannot adequately evaluate future site-specific impacts. However, these requirements for discretionary review are inconsistent with the AWCP's characterization of permits for AWCP facilities as ministerial. Because a General Plan must be internally consistent, the County may no longer characterize any of the AWCP permits as ministerial, and must acknowledge that CEQA review will be required for all AWCP projects.

TRAFFIC: The EIR claims that an entire category of traffic impacts, identified as TRAN-1A, 2A, 3A, and 4A, have been "qualitatively evaluated" and found to be less than significant. Although the EIR fails to explain coherently or consistently what these impacts represent, it appears that that they are the so-called "Tier 1" impacts (a term not defined in the DEIR), consisting of "localized" impacts in the vicinity of future development projects. The EIR finds them to be less than significant on the basis of 2007 General Plan Circulation policies requiring concurrent mitigation of some traffic impacts. However, because the EIR fails to define the geographic scope of these impacts despite LandWatch's request that it do so, future decision makers will have unbridled discretion to limit concurrent mitigation requirements for future projects.

Furthermore, the EIR conclusion with respect to TRAN-1A, 2A, 3A, and 4A, that cumulative impacts in the immediate vicinity of future development projects will be less than significant is inconsistent with its finding with respect to TRAN-1B, 2B, 3B, and 4B, that dozens of county and regional roadways will suffer unavoidably significant impacts. The finding for TRAN-1A, 2A, 3A, and 4A could only be true if no future development project were sited in the immediate vicinity of these admittedly impaired roadways, which is absurd. The proposed findings are simply contradictory, and despite LandWatch's DEIR comments pointing this out, the FEIR does not resolve the contradiction or respond adequately to LandWatch's comments. The essentially incoherent analysis of these impacts requires that the EIR be revised and recirculated.

Although the FEIR entirely revises Circulation and Public Services policies, the revisions have not cured the failure of the 2007 General Plan to meet the requirements of the Planning and Zoning law, including the requirement to specify necessary facilities and to provide policies that are internally consistent and that correlate the Circulation Element with other elements. As written, the 2007 General Plan admits that it is not possible to fund the facilities necessary to meet service standards, fails to specify those standards adequately, and fails to propose policies or implementation measures that will ensure that service standards are met. Impact fee mitigation fails to meet legal standards, and there is no mechanism to address the existing deficiencies in service standards, which impact fees cannot address. Numerous policies are incomplete and inconsistent.

Finally, an agency must settle on a consistent and stable definition of the project under review. The FEIR entirely revises the Circulation and Public Service policies that constitute the heart of the 2007 General Plan Circulation element. Because the EIR purports to rely on the efficacy of these policies for its significance conclusions, the EIR must be re-circulated.

II. Erosion and Sedimentation

LandWatch submitted extensive comments on the failure of the DEIR to evaluate and mitigate erosion and sedimentation impacts, particularly impacts due to substantial projected conversions of currently uncultivated land to agriculture. The FEIR did not respond adequately to LandWatch's comments, simply ignoring many of the comments, and providing evasive or conclusory responses to others.

a. Dr. Curry's Analysis

Accordingly, LandWatch engaged Robert Curry, Ph.D, P.G., to review the DEIR and FEIR. Dr. Curry is an emeritus professor at the University of California Santa Cruz specializing in fluvial geomorphology, hyrdrology, and soil science, and has taught, written, and consulted extensively on erosion, sedimentation, and watershed science. Dr. Curry is eminently qualified to evaluate the adequacy of the EIR's conclusions. His extensive comments on the EIR are attached as Exhibit 1.

Dr. Curry concludes that the EIR failed adequately to describe both existing physical conditions and the existing regulatory environment. In particular, he notes that the EIR fails to acknowledge the inefficacy of the current regulatory environment to control erosion and sedimentation, including both the Regional Water Quality Control Board regulations and the County regulations. The EIR mistakenly assumes that the existing regulatory structure will materially assist in avoiding future significant impacts, despite ample evidence of the inefficacy of these regulations, *e.g.*, the current listings of impaired waters under the Clean Water Act section 303(d) program and the RWQCB's acknowledgements that the existing regulations are not working to control agricultural sedimentation and other pollutants and that impacts are, and will remain, cumulatively significant.

Dr. Curry explains that the 2007 General Plan would permit the addition of a substantial new agricultural land. The EIR acknowledges that much of it will be on sloped land on the margins of the Salinas valley that is particularly prone to erosion. The EIR itself projects that newly cultivated marginal lands will increase agricultural acreage by 5% through 2030, consuming 7% of the uplands around the Salinas Valley. The EIR predicts a 20% increase in agricultural land through buildout. Dr. Curry explains that much of this new land will be used to support viticulture or strawberries, and that the cultivation methods used for these crops are particularly erosive.

Dr. Curry concludes that proposed 2007 General Plan policies will not be effective as written. Generally, Dr. Curry finds that these policies lack substantive standards, fail to identify necessary implementation resources, or cannot be enforced. Dr. Curry proposes a number of essential revisions to these policies.

Because neither the existing regulations nor the proposed 2007 General Plan policies are effective, and because there is already a significant cumulative sedimentation impact, Dr. Curry concludes that the EIR's significance findings are not adequately founded. For example, Dr. Curry points out that the DEIR evaluates cumulative sedimentation impacts in four conclusory sentences. This analysis fails even to follow CEQA's two-step analytic procedure for cumulative impact analysis, under which an agency must first determine if cumulative impacts are significant, and then determine whether the Project (here activities permitted under the 2007 General Plan) will make a considerable contribution to the impact. The DEIR's cumulative impact analysis fails to consider or acknowledge the fact that there is *already* a significant cumulative sedimentation impact. It is clear that adding thousands of acres of new cultivation in marginal sloped lands will make a considerable contribution to this significant impact.

b. Essential Revisions To Policies

Dr. Curry identifies a number of shortcomings in the policies and proposed mitigation measures intended to address water quality, erosion, and sedimentation impacts. As currently proposed, these policies and mitigation measures are flawed:

i. Policies calling for future development of ordinances, programs, or best practices lack meaningful standards, deadlines for completion, or interim measures;

ii. Policies calling for encouraging beneficial activities, cooperation, or voluntary efforts lack resource commitments, carry no mandate, and have not been effective in the past;

iii. Most policies will not apply to agricultural activities that are not subject to discretionary permits, even though these activities are substantial sources of sedimentation and other pollutants;

iv. Policies calling for data collection lack deadlines and/or resource commitments, and similar policies have not been implemented in the past.

Dr. Curry proposes specific revisions to some of these policies to provide standards and deadlines, and to ensure that development and agricultural activity are not permitted to degrade water quality. Key revisions include the following:

- Policy OS 3.5 permitting new cultivation on slopes:
  - Bar any conversions over 25% unless and until the County adopts the proposed program to address cumulative hydrologic impacts of these conversions pursuant to Policy OS 3.9;
  - Specify standards for adequate management plans, including no net increase in sediment yield and storm runoff and no change in overall vegetative cover;
  - Require development of a compliance manual for conversions of sloped land;
  - Require that adequate management plans be based on recommendations by specific categories of professionals with the necessary competence.

- Policy AG 3.3 calling for future development of a list of routine and ongoing agricultural practices to be exempted from certain General Plan policies:
  - Specify that cultivation of previously uncultivated slopes over 15% or over 10% on highly erodible soils is not exempt.

- Policy OS 3.9 calling for a Program to mitigate cumulative hydrologic impacts of agricultural conversions:
  - Specify that the program must be designed to avoid water quality standard violations due to Cumulative Watershed Effects;
  - Specify that no new cultivation of land sloped over 25% shall be permitted until the Program is adopted.

- Policies AG 5.1, 5.2, OS 3.2, OS 3.7, OS 3.8, and PS 2.7 calling for cooperation with and encouragement of various activities and voluntary actions:
    - Revise these policies to identify specific actions and to make necessary resource commitments.

- Policies OS 3.1, OS 3.3, S 3.2, and S 3.7 calling for development and enforcement of best management practices and preparation of a design manual:
    - Specify that the BMPs under OS 3.1 shall be designed to ensure compliance with applicable water quality standards;
    - Clarify that the criteria to be developed under OS 3.3 are criteria for avoiding and minimizing erosion, not merely criteria for studies, and that these criteria should apply to all agricultural activities subject to County permits;
    - Require in OS 3.3 that the County develop objective criteria for exempting agricultural activities from the requirements of its erosion control and grading ordinances, which shall be designed to ensure that water quality standards are met;
    - Specify in S 3.2 that the BMPs shall be applied to agricultural activities subject to permits;
    - Specify that the design manual under S 3.7 shall apply to agricultural activities subject to permits and that it shall include prevention of erosion and sedimentation;
    - Specify that the BMPs, necessary criteria, and design manual shall be developed within 3 years.

- Policies OS 3.4, PS 2.6, S 1.2, and S 3.6 calling for data collection regarding slope constraints, geologic and hydrologic constraints and hazards, and inventories of erosive and polluting areas:
    - Specify completion dates for these activities and identify resources to implement them.

- Policies S 3.1, S 3.3, S 3.5 specifying drainage requirements:
    - Specify that off-site peak and total flows shall not increase;
    - Specify that the policies apply to all activities, including agricultural activities, that are subject to a County permit.

- Mitigation Measure BIO 2.1 calling for development of a. stream setback ordinance:
    - Specify that the measure will apply to all activities, including agricultural activities, that are subject to a County permit;
    - Specify an interim setback until the ordinance is developed.

Without making these revisions, the County cannot reasonably conclude that erosion and sedimentation impacts will be less than significant.

c. Future CEQA Review and Funding Of Programs And Ordinances To Permit Activities That Impair Water Quality

LandWatch has pointed out that the County must undertake CEQA review in development of the deferred programs and ordinances that are intended to enable new development and agricultural activities called for by various 2007 General Plan policies. FEIR, pp. 7-572 to 7-573. In response, the FEIR states that changes to regulations "would require separate CEQA review." FEIR, p. 2-189. In light of that acknowledgement, LandWatch requests that the County specifically commit to CEQA review of the following future actions related to erosion and sedimentation:

- The ordinance exempting routine and ongoing agricultural activities from General Plan policies called for by Policy AG 3.3;

- The Program to address cumulative hydrologic impacts of newly permitted cultivation on sloped land called for by Policy OS 3.9;

- The adoption of the design manual for permitted activities called for under Policies S 3.7, and the manual specifying adequate management plans to permit new cultivation of sloped land called for under OS 3.5 as revised by Dr. Curry;

- The adoption of BMP's for permitted activities under OS 3.1;

- The adoption of criteria for erosion prevention and agricultural exemptions from grading and erosion control ordinances under OS 3.3 as revised by Dr. Curry;

- The adoption of the stream setback ordinance to permit new activities that threaten water quality under mitigation measure BIO 2.1.

This commitment should be made by revising the policy language to specify that the implementation of the policy is a discretionary action that has a potential for adverse physical impacts and that it is not exempt from CEQA. The County might usefully combine some of these CEQA reviews.

The County will require significant resources to develop the programs and ordinances called for by the policies it relies upon to control erosion and sedimentation and to avoid water quality impacts. It is apparent that a number of policies in the 1982 General Plan that were intended to accomplish the same goal were ineffective, which is likely to have been a result of inadequate resource commitments. Accordingly, the County should identify the necessary resources now to ensure that it can actually develop and implement the necessary programs and ordinances.

One mechanism that the County might consider in implementing the Program to prevent cumulative hydrologic impacts from new cultivation of sloped land under Policy OS 3.9 is the Capital Improvement and Financing Plan concept called for under Policy

PS 1.1. The CIFP mechanism has at least the potential to allocate the costs associated with these programs to those who benefit from them. For example, the County might establish a functional benefit area to underwrite the costs of developing the OS 3.9 Program. That benefit area could initially consist of sloped lands for which owners have expressed an interest in new cultivation. To prevent free riders, the County could establish permitting priority for those who initially opt in to the functional benefit area and require pro rata reimbursement of the OS 3.9 Program development costs from those who failed to opt in and later seek permits for new cultivation of sloped land.

If the County is unable to use this or some other suitable mechanism to allocate the costs associated with protecting water quality to those who put it at risk, then LandWatch suggests that the County should not permit them to do so.

III. Salinas Valley Water Supply

As LandWatch objected, the DEIR failed to present an adequate analysis of the total water demand and supply in the Salinas Valley ground water basin. FEIR, pp. 7-634 ff. Instead, the DEIR simply reprinted a 9-year old table from the Salinas Valley Water Project EIR ("SVWP EIR") and projected new urban demand for unincorporated areas. DEIR, p. 4.3-34, Table 4.3-6 (reprint of Table 1-2 in SVWP EIR); DEIR 4.3-115 to 116, Table 4.3.9 (projecting new urban demand in unincorporated areas). The DEIR made no effort to project demand from the cities that use the same ground water basin or to compare the total demand to available supplies. The fundamental basis of the DEIR's conclusion that water supplies in the Salinas Valley will be sufficient through 2030 and that seawater intrusion would be halted was, and remains, the SVWP EIR. DEIR, p. 4.3-127; FEIR, p. 2-66.

In response to comments objecting to the failure to provide a basin-wide supply and demand analysis, the FEIR provides tables projecting total water demand and supply in the Salinas Valley ground water basin. FEIR, pp. 4-80 to 4-87, Tables 4.3-9a through d. These tables purport to demonstrate a small 542 afy surplus of water in 2030 and to reconcile these projections with the SVWP EIR, which the 2007 General Plan EIR continues to claim "remains a solid basis by which to evaluate future water demands." FEIR, p. 2-66.

But the SVWP EIR did not anticipate either the growth in agricultural acreage or the growth in population that the 2007 General Plan projects. The SVWP assumed that a 13.6% increase in water use efficiency from better irrigation methods and different cropping patterns, coupled with a 1,849 acre *decline* in agricultural acreage would require 358,000 afy. SVWP EIR, Table 1-2 (demand), § 7.2.3 (acreage assumptions). Now the 2007 General Plan EIR cites the SVWP EIR as support for its claim that 358,000 afy will be sufficient even though it projects a net *increase* in agricultural acreage of at least 7,682 acres and no increase in efficiency. FEIR, pp. 2-65 to 2-66; see discussion below.

Similarly, the SVWP EIR assumed that a 2030 population of 355,829 persons would demand 85,000 afy, and now the FEIR claims that this supply will be sufficient to serve a population of 517,788. SVWP EIR, Table 1-2 (demand), § 7.2.3 (population assumptions); FEIR, pp. 4-84 to 4-86, Table 4.3-9c.

These claims, detailed for the first time in the FEIR, are riddled with inconsistencies as the County tries to justify its continued reliance on the SVWP EIR and to insist that its 9-year-old projections and assumptions remain credible. In fact, the EIR's own projections of agricultural growth and population increase demonstrate that water supply will be exhausted by future demand, resulting in a shortage and continued seawater intrusion. The County must revise and recirculate the EIR to acknowledge that water supply and seawater intrusion impacts are significant, and it must propose meaningful mitigation to address the shortage, including agricultural and urban water conservation measures.

A. Contrary To The EIR, Salinas Valley Water Supply and Seawater Intrusion Impacts Will Be Significant Because Agricultural Water Demand For New Agricultural Land Conversions Will Consume The Small Projected Surplus

The FEIR presents a water balance for the Salinas Valley that purports to show a 542 afy surplus of water supply over total demand through 2030. FEIR, p. 4-83, Table 4.3-9b (demand projected at 442,458 afy, supply projected at 443,000). This table is the basis of the EIR's conclusion that water supply and salt water intrusion impacts in the Salinas Valley will be less than significant and that no mitigation is required through 2030. *See, e.g.*, FEIR, p. 4-83, Table 4.3-9b, note 2 (identifying the estimated 443,000 afy water supply as the amount that can be provided without further lowering water tables or increasing sweater intrusion compared to baseline levels.)

Because this table is based on fundamentally inconsistent land use assumptions from the SVWP EIR, it cannot support the EIR's findings. In fact, the agricultural land use assumptions in the 2007 General Plan EIR demonstrate that development under the 2007 General Plan will result in a shortage, not a surplus by 2030 in the Salinas Valley.

1. SVWP EIR Assumes A Decrease In Salinas Valley Agricultural Land But The 2007 General Plan EIR Projects An Increase

The fundamental inconsistency is that the demand figures in the FEIR water balance do not reflect the water demand from 10,253 acre growth in irrigated agricultural acreage that the EIR admits will occur by 2030. FEIR, 2-36 to 2-38. Master Response 3.2 projects that 10,253 acres of previously uncultivated land will be converted by 2030, and it states that this conversion will take place primarily in the Salinas Valley due to the availability of groundwater and suitability of soils. *Id.* The FEIR omits the water demand from the projected growth in irrigated agricultural land because it relies on the 2001 SVWP EIR to project agricultural water demand through 2030. FEIR, p. 4-85, Table 4.3-9c (2030 agricultural demand of 358,000 afy is taken from SVWP EIR).

However, the SVWP EIR did not assume *any* increase in the growth of irrigated land through 2030.

Indeed, the SVWP EIR assumed that there would be *a net decrease of 1,849 acres* in agricultural land through 2030, taking into account both the urbanization of farmland surrounding population centers and the conversion of open space to agriculture: "Overall, net farmland is expected to decrease by 1,849 acres from a 1995 total of 196,357 acres to a 2030 total of 194,508 acres." SVWP, EIR, § 7.2.3; *see also* § 3.2.4 ("An overall slight net reduction in agricultural land uses would be expected") and § 7.2.1 ("Net agricultural acreage would remain effectively unchanged").

By contrast, the net change in irrigated Salinas Valley agricultural land projected in the 2007 General Plan EIR is *an increase of at least 7,682* acres between 2006 and 2030. This conservative minimum figure for the net increase in Salinas Valley agricultural land can be determined by subtracting the EIR's County-wide projection of 2,571 acres farmland lost to urbanization from the EIR's projection of 10,253 acres of new cultivation of open space that will occur, primarily in the Salinas Valley. DEIR, p. 4.2-12, Table 4.2-9 (projecting that 2,571 acres of farmland will be removed from agricultural land use designation through buildout); FEIR, p. 2-38 (primary focus of new conversions will be in Salinas Valley).

This net farmland increase for the Salinas Valley is conservative because it allocates all of the farmland lost to urbanization to the Salinas Valley even though the DEIR states that the loss will occur in *both* the Salinas Valley and the Pajaro Valley. DEIR, pp. 4.2-11 to 12. It is also conservative because the 2,571 acre loss of agricultural land to urbanization is not projected to occur until the time of buildout (2092), so only a portion will occur by 2030. DEIR, p. 4.2-12. Thus, the projected net increase in agricultural land in the Salinas Valley between 2005 and 2030, *based on the EIR's own analyses and assumptions,* is likely to be higher than 7,682 acres.[1]

[1] The FEIR's Master Response 4.2.1 regarding agricultural water demand in the Salinas Valley does not claim that new conversions would be offset by agricultural land lost to urbanization. FEIR, pp. 2-65 to 66. However in discussing water quality impacts from agricultural runoff in Master Response 9.4.1, the FEIR incorrectly claims that the supply of agricultural land has not increased substantially between 1992 to 2006 and that cultivation of new land is offset by conversion of agricultural land to urban uses. FEIR, p. 2-173.

The claim in Master Response 9.4.1 that urbanization will offset new agricultural conversions is not supported by Master Response 4 on Water Supply as Master Response 9.4.1 asserts. Master Response 4.2.2 simply cites the SVWP EIR's unquantified claims that "some" agricultural land lost to urbanization would be replaced by new agricultural conversions. FEIR, pp. 2-71, citing SVWP EIR at §3.2.4. As discussed above, the SVWP EIR's assumption that agricultural land will not increase is inconsistent with the 2007 General Plan EIR's quantification of the amount of 1) agricultural conversion of

The SVWP EIR's projection that there will be no increase in agricultural land has *already* been proven to be incorrect, based on data in the 2007 General Plan EIR. The DEIR shows that 8,209 acres of habitat were converted to farmland *between 1996-2006, the ten-year period immediately following the SVWP EIR's 1995 baseline year*. DEIR, p. 4.9-46, Table 4.9-6. The FEIR acknowledges that this data is the basis of its projection that 10,253 acres of additional new conversions are expected between 2005 and 2030, primarily in the Salinas Valley. FEIR, pp. 2-36 to 2-38.

2. Water Demand For The Net Increase In Agricultural Acreage Will Consume The FEIR's Projected Surplus And Result In A Substantial Shortfall

Had the EIR acknowledged the net increase in irrigated agricultural acreage in calculating the water balance for the Salinas Valley, it would have projected a shortage rather than a surplus. Given this shortage, the EIR should have concluded that water supply and saltwater intrusion impacts in the Salinas Valley through 2030 are significant and proposed mitigation.

The SVWP EIR projects that the average acre of agricultural land will require 1.84 feet of water per year by 2030.[2] Using that figure for water demand per acre, the demand from 7,682 acres of net new irrigated agricultural land would amount to 14,135 afy. This would dwarf the 542 afy surplus projected by the FEIR's water balance, resulting in a shortage of 7,140 afy. FEIR, p. 4-83, Table 4.3-9b.

And this shortage calculation does not take into account the fact that the SVWP EIR water demand was based on the expectation that Salinas Valley agricultural acreage would *decline* by 1,849 acres by 2030. SVWP, EIR, § 7.2.3. The full discrepancy between the agricultural land use assumptions in the SVWP EIR and the 2007 General

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open space and 2) agricultural land lost to urbanization. Again, the EIR's only quantification of agricultural land lost to urbanization is its projection that 2,571 acres of land in both the Pajaro and Salinas Valley will be lost by buildout (2092), and, as noted, this figure is dwarfed by the projection of 10,253 acres of agricultural conversion by 2030, primarily in the Salinas Valley.

Furthermore, the Master Response 9.4.1 claim that the supply of agricultural land has not increased substantially between 1992 to 2006 is inconsistent with the EIR's admission that 8,209 acres of habitat was converted to farmland between 1996 and 2006 and that 2,976 acres were converted between 1982 and 1996. DEIR, p. 4.9-46, Table 4.9-6.

[2] This is based on the projection that 194,508 acres of agricultural land will demand 358,000 afy by 2030. SVWP EIR, Table 1-2 (2030 demand) and §7.2.1 (2030 acreage).

Plan EIR is actually 9,531 acres (7,682 acre net increase in 2007 General Plan EIR plus the 1,849 decrease in the SVWP EIR). Demand for the all of this unaccounted-for acreage would be 17,537 afy, (9,531 acres times 1.84 afy) resulting in a shortage of 16,995 afy (17,537 afy minus 542 afy).

Even if a smaller water use figure were used, say 1 acre-foot of water per year, the FEIR's projected surplus will be converted to a shortage by the substantial increase in net agricultural land in the Salinas Valley.

3. The FEIR Comment Responses Fail To Explain How The SVWP EIR Can Account For Water Used By New Agricultural Acreage, Double Count Conservation, And Misleadingly Cite Incomplete Pumping Data

a. FEIR comment responses fail to explain how the SVWP EIR can account for pumping demand for acreage it did not include

The FEIR's Master Response regarding agricultural water demand in the Salinas Valley purports to address comments by LandWatch objecting to the failure to include water demand from the EIR's projected increase in agricultural conversions in the Salinas Valley. FEIR, pp. 2-65 to 2-66, 3-191 (response O-11g.25, referencing Master Responses 3 and 4). The FEIR continues to insist that the SVWP "remains a solid basis by which to evaluate future water demands." FEIR, p. 2-66.

However, the FEIR's response simply does not explain how use of the SVWP EIR demand figure for Salinas Valley agriculture can be consistent with the fundamentally different assumptions regarding the total irrigated acreage. Instead, the FEIR references the SVWP EIR's conclusions that agricultural water use will become more efficient due to changes in irrigation practices. As discussed in the sections below, this claim double counts conservation efforts and is not supported by the data cited.

But regardless of the ultimate efficiency of farm water use, the FEIR simply does not and cannot reconcile the SVWP EIR's conclusion that 358,000 afy will be required for 194,508 acres with the 2007 General Plan EIR's projection that there will in fact be 9,531 more acres of agricultural land demanding irrigation. The FEIR directs readers to its discussion of the projected change in agricultural acreage (FEIR, p. 2-65), but that discussion (FEIR, pp. 2-35 to 2-42) does not address the effect of this increased acreage on aggregate water usage.

The FEIR misleadingly implies that the SVWP EIR did project some growth in agricultural acreage:

> "As discussed in the DEIR for the SVWP, the MCWRA projects that agricultural water use will decrease in the future due to the *limited expected growth in*

> *irrigated acreage overall* and the increased efficiency of water use over time." FEIR, p. 2-65, emphasis added.

This is entirely misleading because the SVWP EIR in fact projected a *decline* of 1,849 acres in total agricultural acreage, not a "limited expected growth." SVWP EIR, § 7.2.3.

In sum, nowhere does the FEIR actually address the consequence of the difference in land use assumptions.

b. FEIR comment responses double count conservation

As noted, the FEIR purports to explain away the effect of the fundamentally different land use assumptions in the SVWP EIR and the 2007 General Plan EIR by citing increased efficiency in agricultural water use. FEIR, pp. 2-65 to 2-66. But the 2030 agricultural water demand in the SVWP EIR *already assumes a 13.6% reduction in per acre water use compared to 1995 levels due to changes in water use efficiency and cropping pattern*. SVWP EIR, §§ 3.2.4, 7.2.1.

SVWP EIR Table 1-2 projected agricultural water demand to be 358,000 afy in 2030 compared to 418,000 afy in 1995. SVWP EIR, § 1.3. The SVWP EIR assumed that total agricultural land would decrease to 194,508 acres in 2030 compared to 196,357 acres in 1995. The per acre water use would therefore decline from 2.13 feet to 1.84 feet, a 13.6% decrease.

The SVWP EIR clearly states that it takes conservation and cropping changes into account in identifying an overall 13% reduction in agricultural water demand:

> "Agricultural needs, which make up a far greater share of water use, are projected to decrease by approximately 51,700 AFY (a 13% reduction) as a result of several factors, *including increased irrigation efficiencies, changes in crops (i.e., increase in lower water-demand grape production),* and some conversion of land from agriculture to urban uses. Although some agricultural land will be converted to urban uses, some of this acreage will be replaced by conversion of non-agricultural or non-irrigated land to irrigated uses. An overall slight net reduction in agricultural land uses would be expected." SVWP EIR, § 3.2.4

Elsewhere, the SVWP EIR explains that the major assumptions in its demand modeling included changes in crop patterns, a 5% increase in conservation, *but no increase in agricultural acreage*:

> "Agricultural land uses would shift, with a large increase in relative acreage devoted to vineyards (a 25% increase between 1995 and 2030 was assumed), and a decrease to all other uses (truck crops, field crops, pasture, and orchards). Conversion of agricultural acreage to urban uses is also assumed to occur, but would be generally replaced by land not currently in agricultural use. Net

> agricultural acreage would remain effectively unchanged. Through cropping patterns, as well as conservation realized through incorporation of new technologies, a 5% increase in water conservation, compared to water use by the same crops, would be expected between 1995 and 2030. The shift in agricultural land uses coupled with water conservation and cropping patterns would result in a net reduction of 60,000 acre-feet per year (AFY) by 2030." SVWP EIR, § 7.2.1.

Indeed, the FEIR states that the SVWP EIR takes into account increased efficiency due to irrigation technology changes and crop selection. FEIR, p. 2-66. But LandWatch's DEIR comments did not take issue with the SVWP EIR with respect to its assumptions regarding water use efficiency. Thus, it is thus both absurd and disingenuous for the FEIR to ignore the increase in acreage, which was not assumed by the SVWP EIR, but to claim that the effects of water conservation and cropping changes would somehow make up for the increased acreage.

The SVWP EIR projected total agricultural water use based on the specific assumption that total irrigated acreage would decline by 1,849 acres and that there would be a 13.6% increase in efficiency of water use. Unless the increased efficiency is double counted, it is simply not relevant to LandWatch's objection that the SVWP EIR's projection of total water use cannot be correct if acreage increases by at least 7,682 acres.

Because the FEIR simply ignores the fundamental inconsistency in land use projections to which LandWatch objected, the FEIR's response fails to meet CEQA's requirements for reasoned, good faith responses to public comments on a DEIR.

c. FEIR responses selectively and misleadingly cite MCWRA pumping data, and, in any event, those data are fundamentally inconsistent with the SVWP EIR baseline assumptions

In support of its claim that water use efficiencies will occur, the FEIR includes Exhibit W-1, summarizing in graphical form Salinas Valley Groundwater Basin Extraction Data, 1995 to 2008. This presentation purports to be based on MCWRA Groundwater Summary Reports and to show that agricultural pumping has "slightly declined" from 1995 to 2008.

This data, which are presented only in graphical form without totals, are both incomplete and unpersuasive for a number of reasons. To understand the reasons, it is helpful to look at the underlying data from the MCWRA Groundwater Summary Reports for the period 1995 to 2008, which are set out in the table below.[3] The table set forth

[3] The Ground Water Summary Reports are available by year at http://www.mcwra.co.monterey.ca.us/ under Available Data and Reports, Ground Water Extraction Summary Reports.

below contains many of the same data included in DEIR Table 4.3-5 (DEIR, p. 4.3-33). Discrepancies between DEIR Table 4.3-5 and the table set forth here have been checked against the MCWRA Ground Water Summary reports and the table below is consistent with those reports. The table set forth here also includes the data for 2006-2008, which were omitted from the DEIR Table 4.3-5.

Year	Ag Pumping1	Urban Pumping 2	Total Pumping 3	Total Wells 4	# Wells reporting 5	Non-reporting wells 6	Acres providing "Water and Land Use Forms" 7	AF for "Water and Land Use Form" acres	AF of water used per Acre
1995	462,628	41,884	504,512	N/A	1851	2%	N/A		2.63
1996	520,804	42,634	563,438	N/A	1819	4%	N/A		N/A
1997	551,900	46,238	598,139	N/A	1798	7%	N/A		3.10
1998	399,521	41,527	441,048	N/A	1720	7%	N/A		2.10
1999	464,008	40,559	504,567	N/A	1625	9%	N/A		2.55
2000	442,061	42,293	484,354	N/A	1576	11%	N/A		1.8
2001	403,583	37,693	441,276	N/A	1419	18%	N/A		2.3
2002	473,246	46,956	520,202	N/A	1663	7%	N/A		2.7
2003	450,864	50,472	501,336	1714	1663	3%	N/A		2.1
2004	471,052	53,062	524,114	1776	1724	3%	N/A		2.3
2005	443,567	50,479	494,046	1780	1748	2%	164,340.4	409,078.2	2.49
2006	421,634	49,606	471,240	1775	1710	4%	158,559.9	394,393.6	2.49
2007	475,155	50,440	525,595	1793	1737	3%	169,726	439,867.9	2.76
2008	477,124	50,047	527,171	1796	1750	3%	162,032.5	448,668.2	2.77

Notes:
1. Acre-feet of extraction for agriculture
2. Acre-feet of extraction for urban uses
3. Total agriculture and urban extraction in acre-feet
4. Total wells are stated only after 2003. Well numbers for prior years are stated as the number of reporting wells, although a percent of non-reporting wells is also provided
5. Stated number of metered wells reporting extractions
6. Stated percent of total wells in Salinas Valley that did not provide ground water extraction reports
7. Until 2005, Ground Water Summary Reports reported water used per acre as an aggregate statistic without providing the total acreage or pumping on which this statistic was based. The reports state that the water used per acre statistics for 1995 through 1999 were based on that subset of all pumping reports for which both acreage and pumping data were supplied, and adjustments were made for cropping patterns. Data beginning in 2000 was based on the Water and Land Use Form, which accounted for all crop types and provided a larger data set. Reports beginning in 2000 caution that acre-feet per acre data should not be compared to the 1995 through 1998 reports because the new data set was larger and comparison to previous data could cause inaccurate conclusions.

First, the 1995 data demonstrates that *the SVWP EIR baseline conditions substantially understate actual pumping*. Pumping reported by MCWRA for 1995 is 462,268 afy for agriculture and 41,884 afy for urban uses, for a total of 504,512 afy. This is graphically depicted by FEIR Exhibit W-1 and consistent with the pumping data set out in Table 4.3-5 of the DEIR. DEIR, p. 4.3-33. *However, the SVWP EIR states that*

pumping for "Baseline (1995) Conditions" was only 418,000 afy for agriculture, 45,000 afy for urban use, and 463,000 afy in total. SVWP EIR, Table 1-2.

In short, *the SVWP EIR understated baseline agricultural pumping by 44,268 afy* in comparison to the MCWRA Ground Water Summary Reports. The Ground Water Summary Reports are based on actual well monitoring data collected pursuant to Monterey County Ordinance No. 3717. The reports may understate total pumping because a percentage of wells fail to report each year. However, these omission would result in an even larger discrepancy between the actual data for 1995 and the baseline assumption in the SVWP EIR.[4]

The fundamental inconsistency between MCWRA's reported pumping data and its SVWP EIR renders the SVWP EIR's conclusions entirely suspect. In simple terms, if the SVWP EIR omitted 44,268 afy in its baseline demand, then it is not reasonable to accept its conclusions regarding future demand, which is based on a 13% reduction from baseline demand. The data inconsistency directly implies that the SVWP EIR's projection of 2030 agricultural demand of 358,000 (SVWP EIR, Table 1-2) should be increased to reflect the error in baseline condition assumptions. That increase should be at least 87% of the 44,268 afy error in baseline conditions, *i.e*., 100% less the 13% projected savings that would occur by 2030 (but did not occur in 1995) due to assumed increases in water use efficiency and cropping changes.

If the SVWP EIR 1995 baseline data were somehow determined to be accurate notwithstanding the entirely inconsistent data in the MCWRA Ground Water Summary Reports, then the FEIR cannot rely on those inconsistent data to support the SVWP EIR conclusions. Either the SVWP EIR is wrong about 1995 baseline conditions or the Ground Water Summary Reports are wrong – but they cannot support each other.

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[4] Documentation of December 28, 2009 personal communication by Curtis Weeks and Bill Phillips, MCWRA, with Terry Rivasplata, ICF International, Wendy Strimling, County of Monterey, in the record states:

> "The Table 4.3-6 in the DEIR reflects modeling results, not extraction. The SVIGSM is the source. It's the baseline for the SVWP."

This statement is inconsistent with representations made by MCWRA in the Ground Water Summary Reports, all of which are in the record, and which clearly explain that the pumping data is a compilation of "ground water extraction reports" from well operators in the Salinas Valley Ground Water Basin. The data in DEIR Table 4.3-6 are consistent with those reports with minor errors (e.g., a transposition error in the 2002 data, a rounding error in the 1997 data. However, the SVWP EIR identifies its "Baseline (1995) Conditions" in its Table 1-2 as 463,000 af/y of pumping, which is clearly not consistent with the 1995 data from the MCWRA Ground Water Extraction Summary Report.

Second, the data in the MCWRA Ground Water Summary Reports is incomplete. In every year, data from a number of wells has not been reported. Significantly, the number of non-reporting wells is much higher in years like 2000 and 2001 where total pumping is much less than in other years. Without a complete data set, or without some consistent adjustment to ensure that the aggregate reporting is consistent from year to year, the data cannot credibly support a trend determination. The omission of a random number of wells in each year's data means that aggregate data is simply incomplete. Note that incomplete aggregate data need not affect the statistics for water use per acre as long as the data reported is a representative sample. As discussed below, there is no declining trend in water use per acre.

Third, although Exhibit W-1 is offered to support the assertion that water use is declining as projected by the SVWP EIR, no effort was made to project this trend to 2030 to determine whether the small decrease is consistent with the SVWP EIR's projection of a substantial decrease by 2030. If there were enough credible and complete data to support a trend projection at all, the FEIR should have forecast this trend to 2030 to determine if agricultural pumping would in fact come in under the 358,000 afy projected in the SVWP EIR and adopted as the basis of the FEIR's water balance for the Salinas Valley. SVWP EIR, Table 1-2; FEIR, p. 4-85, Table 4.3-9c. The absence of this projection suggests that the data do not support such a conclusion.

Fourth, the MCWRA Ground Water Summary Reports do not support the conclusion that water use per acre is declining, regardless of the data that the FEIR cites regarding changes in irrigation methods. Each annual Ground Water Summary Report from 1995 to 2004 contains a statistic for aggregate water usage per acre. According to the reports themselves, the method by which this statistic was compiled between 1995 and 1999 is not consistent with the more complete data and calculations provided thereafter, which were based on the "Water and Land Use Forms." Thus, the reports caution that pre-2000 water use per acre statistics should not be compared to the earlier statistics. Note also that, although the reports from 2006 through 2008 no longer provide the aggregate statistic for water use per acre, this statistic can be readily determined by summing the disaggregated data from the Water and Land Use Forms, which is provided. The table above does sum the disaggregated data to determine water use per acre for 2006 through 2008.

The water use per acre data in the reports from 2000 to 2008 demonstrate that there has been no declining trend in water use per acre. With only two exceptions, water use per acre increased from 2000 to 2008, from 1.8 af to 2.77 af. The increase in water use per acre does not mean that farmers have not adopted more efficient irrigation methods as the FEIR claims. But that is only part of the story. Total water use depends not just on irrigation methods, but on weather, climate, soil types, and crop types. As each of the Ground Water Summary Reports cautions, "[c]hanging weather patterns and variable soil and crop types affect the amount of water needed for efficient irrigation." See, e.g., MCWRA, 2000, 2004, and 2008 Ground Water Extraction Summary Reports,

each at page 6. The FEIR's selective citation of data on irrigation methods simply does not tell the whole story and cannot support the conclusion that the SVWP EIR's projection of aggregate 2030 water use has been born out by experience since 1995.

The available sample for water use per acre may be too small to predict a trend, or the changes in water use may possibly be explained with reference to weather, climate, crop types or soil types. But if these factors preclude reliance on the data to show an increasing trend in water use per acre, then these same factors must prevent reliance on the aggregate data to show the opposite trend. And the FEIR simply makes no effort to evaluate the purported slight decline in aggregate water use in light of climate, weather, crop types, or soil types.

d. The FEIR misrepresents the location of agricultural demand growth

In responding to comments regarding the likelihood of substantial new agricultural conversions, the FEIR acknowledges that there will be 10,253 acres of new agricultural conversion and concludes that most of these conversions will occur in the Salinas Valley, based on historic trends, water availability, soil suitability, and other factors. FEIR, pp. 2-36 to 2-38. This comment response concludes that "it is reasonably foreseeable that the primary focus of agricultural expansions would be within Zone 2C [*i.e.*, the Salinas Valley groundwater basin], which could accommodate the entire 10,253 acres [of new conversions] forecasted by 2030 without placing substantial pressure outside Zone 2C." FEIR, p. 2-38, emphasis added.

Despite this conclusion, the FEIR then inconsistently restates and revises the DEIR text to 1) continue to assert that there will be no net expansion in agricultural acreage and 2) to assert that agricultural water demand will decrease in the Salinas Valley because the agricultural demand increases will occur in other areas:

> "Agriculture will also place demands on raw water supplies. Based on trends in agricultural employment (AMBAG 2004; AMBAG 2008), no net expansion in overall agricultural acreage is projected for 2030 as virtually no increase in agricultural employment is forecast by AMBAG to 2030 for the county in the most recent (2008) and the immediately prior (2004) economic forecasts. The Salinas Valley Water Project EIR forecast a slight decline in agricultural water demand in the Salinas Valley for 2030 (MCWRA 2001a). The amount of agricultural land use is expected to increased [sic] slightly during the 2030 planning horizon overall. However, agriculture's demands on water supplies in some areas are anticipated to increase in some areas (North County, pursuant to the projections in the Rancho Roberto FEIR, for example), while they are expected to decrease in other areas (Salinas Valley, pursuant to the SVWP FEIR, for example). Overall, agricultural water demand is expected to remain relatively stable, with a small decline, due to improvements in water use efficiency." FEIR, p. 4-79, emphasis added.

This revision is simply inconsistent with the FEIR's acknowledgement in Master Response 3.2 that there will be 10,253 acres of new agricultural conversion through 2030, primarily in the Salinas Valley.[5] FEIR, pp. 2-35 to 2-38. As discussed above, this increase will be only partially offset by a portion of the 2,571 acres of agricultural land lost to urbanization in the Salinas and Pajaro Valleys. The inconsistency of this DEIR text revision with the FEIR's Master Response 3 does not meet CEQA's requirements for good faith, reasoned comment responses.

B. The SVWP EIR Projection Of Urban Water Demand Is Not Consistent With The FEIR And There Is No Substantial Evidence That Urban Demand Will Remain At The 85,000 AFY Projected By the SVWP EIR

As noted above, the SVWP EIR assumed that a 2030 population of 355,829 persons would demand 85,000 afy. SVWP EIR, Table 1-2 (demand), § 7.2.3 (population assumptions), Table 7-1 (Population Growth Projections for Communities Within the Salinas Valley: 1995-2030). The FEIR now claims that this supply will be sufficient to serve a population of 517,788. FEIR, p. 4-85, Table 4.3-9c (projecting a 2030 urban population of 517,788 will demand 84,458 afy).

Despite the 161,959, or 46%, increase in projected population, the FEIR continues to insist that its conclusions are based on, and consistent with, the SVWP EIR. FEIR, pp. 2-55 ("updated demand is still consistent with the projections of the SVWP and thus the SVWP EIS/EIR conclusions regarding water supply, groundwater overdraft, and seawater intrusion still hold."), 2-65 ("the difference between the two estimates is trivial and statistically insignificant"). But the reason that the FEIR projects urban demand at

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[5] The revision is also internally inconsistent, because, as revised, the text states both that there will be "no net expansion in overall agricultural acreage" and that "amount of agricultural land use is expected to increased [sic] slightly during the 2030 planning horizon overall."

The continued reliance on agricultural employment projections as the basis for the projection of no net increase in acreage is also inconsistent with the FEIR's discussion of increased agricultural acreage in Master Response 3.2. There is no evidence that AMBAG's projection that agricultural employment will not change is based on any consideration of the likelihood that agricultural acreage will increase as the 2007 General Plan projects. The AMBAG 2004 and 2008 employment projection may very well be based on the 2001 SVWP EIR's projection of no change in agricultural acreage. Or the projection may reflect the increased efficiency of agriculture in use of the various factors of production, as noted by the SVWP EIR. Regardless, it is absurd for the EIR to claim no increase in acreage on the basis of employment projections and to project substantial increases in acreages based on 20 years of trend data showing actual increases in acreage, year by year.

the same level as the SVWP EIR is that it has backed into the projections in an effort to *make* them consistent. This effort serves only to obscure the problem, to generate confusion, and ultimately, inconsistency.

1. The FEIR Misrepresents The Urban Water Demand Estimate In The SVWP

The FEIR presents a table captioned "Water Demand for Salinas Valley Estimated in the 2001 Salinas Valley Water Project EIR." FEIR, p. 4-87, Table 4.3-9d. This table is not included in the SVWP EIR and is fundamentally inconsistent with the urban water demand data that are included in the SVWP EIR.

As noted above, the SVWP EIR assumed that a 2030 population of 355,829 persons would demand 85,000 afy. SVWP EIR, Table 1-2 (demand), §7.1, Table 7-1 (Population Growth Projections for Communities Within the Salinas Valley: 1995-2030); § 7.2.3 (population assumptions). By contrast, Table 4.3-9d in the FEIR shows a population of 425,611. While the population projections made for the cities and for Castroville and Fort Ord in Table 7-1 of the SVWP EIR are consistent with projections in FEIR Table 4.3-9d, *Table 4.3-9d also includes another 20,382 persons for North County and 49,400 persons for the East Side*. The FEIR admits that the SVWP EIR contains no population estimate for North County. Table 4.3-9d, note 1. It is apparent that the SVWP EIR also omitted population for the East Side area: the 69,782 person difference in population assumptions between the SVWP EIR and Table 4.3-9d consists of the 20,382 persons that Table 4.3-9d projects for North County and the 49,400 persons it projects for the East Side.

In short, comparisons of SVWP EIR Table 7-1 and FEIR Table 4.3-9d demonstrates that the SVWP EIR population assumptions omitted at least 69,782 persons for which the FEIR now implies it included water demand.

More fundamentally, since Table 4.3-9d projects more population than the SVWP EIR, it is difficult to understand how this table *could* represent the basis of the SVWP EIR's urban demand projection.

Furthermore, Table 4.3-9d is not complete. It includes water demand for a number of areas for which it does not provide any population data, e.g., Pressure, Toro/Ft. Ord, Forebay, Upper Valley. The table does not explain how projections for these areas, or for any other areas, were actually made. Instead of explaining the basis of the demand projections, Table 4.3-9d references "RMC, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May." No such document is referenced by the SVWP EIR.[6]

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[6] The only RMC document that the SVWP EIR references is "*Draft Project Plan, Salinas Valley Water Project* (MW & RMC, 1998)" (see SVWP EIR, § 1.7), which it also references as "Montgomery Watson and Raines, Melton & Carella, 1998. *Draft*

Even more egregiously, Table 4.3-9d actually projects more bottom line urban demand than the SVWP EIR does. The sum of the individual community demands is not the 85,000 afy used by the SVWP EIR as its urban demand projection, but 88,987 afy. The difference is not trivial: *the 3,987 afy difference is, by itself, sufficient to consume the entire 542 afy surplus projected for the Salinas Valley in FEIR Table 4.3-9b and create a shortage.* Note 3 to Table 4.3-9d offers the following as an explanation of the difference: "DEIR for SVWP used 85,000 AFY total, likely reflecting minor adjustment in calculation post-1998." FEIR, p. 4-87. The public is left wondering how "likely" this explanation actually is and what "minor adjustment" could erase demand of 3,987 afy.

In sum, Table 4.3-9d is not from the SVWP EIR, it is not consistent with the SVWP EIR, it does not explain what assumptions were used, and it does not explain why its population projections differ from the SVWP EIR. On its face, the Table 4.3-9d demonstrates more urban demand than the SVWP EIR assumed, enough more to result in a water shortage rather than a water surplus. If the table is offered to demonstrate that the SVWP EIR urban demand projection is consistent with the FEIR's projection, it fails to do so, and raises more questions than it answers.

2. The FEIR's Projection Of Urban Water Demand For The Salinas Valley Is Inconsistent With The SVWP EIR And With The FEIR's Restatement Of The SVWP EIR

The FEIR projects urban demand for the Salinas Valley as 84,458 afy in Table 4.3-9c. FEIR, pp. 4-84 to 4-86. This total is just 542 afy under the 85,000 afy projected by the SVWP EIR, and this difference accounts for the FEIR's projected surplus in 2030. FEI, p. 4-83, Table 4.3-9b (projecting surplus).

Table 4.3-9c is not consistent with the SVWP EIR because it assumes a population of 517,788 rather than the 355,829 projected by the SVWP EIR, a 46% difference. SVWP EIR, §7.1, Table 7-1 (Population Growth Projections for Communities Within the Salinas Valley: 1995-2030); § 7.2.3 (population assumptions).

Table 4.3-9c is not consistent with Table 4.3-9d because it assumes a population of 517,788 rather than the 425,611 projected in Table 4.3-9d, a 22% difference.

Finally, Table 4.3-9c is not consistent with the EIR's claim that it has used a water demand factor for urban demand of 181 gpd. DEIR, p. 4.3-116, Table 4.3-9; FEIR, p. 4-86, Table 4.3-9c, note 2. The EIR calculated new demand at 181 gpd based on the

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Project Plan, Salinas Valley Water Project" (see SVWP EIR, § 9.3). While the SVWP EIR does reference a document captioned "MCWRA, 1998a. Technical Memorandum: 2030 Land Use and Water Needs Conditions' (SVWP EIR, § 9.3), this document is not by RMC.

2005 California Water Update, which the DEIR and FEIR defend on the basis that it represents average per capita use in the Central Coast region. DEIR, p. 4.3-114; FEIR, p. 3-194. However, Table 4.3-9c *actually projects that per capita water use will be only 145 gpd in 2030* because it projects that a population of 517,788 persons will demand only 84,458 afy.[7] The EIR cannot reasonably claim that 181 gpd is a reasonable basis to project new demand because it is reflective of current conditions, and also claim that total future demand, which includes current demand and new demand, will actually have a lower per capita demand factor.

In sum, the FEIR's unexplained and uncritical presentation of two different population projections for the Salinas Valley in adjacent tables its own water demand projections, using inconsistent per capita demand data, cannot serve as the basis of a finding that water supplies will be sufficient. The FEIR citation of the SVWP EIR as the ultimate foundation of its sufficiency analysis further undercuts the evidence since both projections are substantially higher than the projections used in the SVWP EIR.

The only reasonable conclusion is that the FEIR has presented data not to evaluate environmental conditions, but to cling stubbornly to the DEIR's significance conclusions that were mistakenly based on out-of-date information. The FEIR's claim that its analysis is "within 0.01 percent of that estimated during planning for the Salinas Valley Water Project" (FEIR, p. 2-65) is not evidence of the concurrence of two independent analyses. It is evidence of a post-hoc rationalization of a conclusion the County refuses to examine critically in light of changed circumstances.

C. Belated Provision Of Water Balance Data Requires Recirculation

In DEIR comments, LandWatch pointed out that the DEIR failed to provide the minimum requirements for a discussion of water supplies because it failed to provide an analysis of competing water demands in the context of a long-term cumulative impact analysis. CEQA and common sense mandate that an analysis purporting to demonstrate the sufficiency or insufficiency of water supplies include all sources of demand and supply and be prepared for each significant basin. LandWatch objected that the DEIR's projection of Salinas Valley demand omitted existing demands and future growth in demand from cities, and that it amounted to a rehash of the SVWP EIR's Table 1-2, without reflecting the 2007 General Plan land use and demand assumptions. LandWatch also objected that the DEIR simply failed to provide a water balance analysis at all for the Carmel River or Pajaro basins.

In response, the FEIR provides an entirely new set of tables projecting water supplies and demands basin by basin. As is evident from our comments above related to

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[7] If 517,788 persons use 84,458 afy, each person uses 0.163113089 afy. An acre-foot has 325,851.4 gallons, so each person uses 53,150.6 gpy, which comes to 145.6 gpd in a 365 day year.

the Salinas Valley water balance analysis presented for the first time in the FEIR, the discipline of setting out a water balance in an EIR is essential to permitting meaningful public comment because an agency is less able to sweep inconvenient facts under the rug. Case law is clear that an adequate CEQA document for overdrafted basins must show the total groundwater available in the basin so the public and decision makers can understand the magnitude of the project's impact and must contain settled baseline data in the document sent out for public review. See Remy et al., Guide to CEQA (11th Ed. 2006), p. 785. Where data critical to understanding an EIR's claims of water supply sufficiency, or the magnitude of the insufficiency, are presented after the public comment period closes, an agency must recirculate the EIR. CEQA Guidelines, § 15088.5(a)(4); *Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App. 4th 99.

Because the FEIR's water balance analyses were presented for the first time in the FEIR, the public has been denied an opportunity to make meaningful comments on the data, and to receive responses to those comments. Obviously, our comments demonstrate that the EIR's finding regarding the magnitudes of Salinas Valley demand and supply and its significance finding are critically dependent on agricultural land use projections that were not reflected in the DEIR's analysis. Our comments also demonstrate other discrepancies in the water analysis. For example, the water balance data incorporates higher population projections than the SVWP EIR and the population data in the FEIR itself are inconsistent. Even more fundamentally, the DEIR's failure to present water balance analyses at all for the other groundwater basins deprived the public of a meaningful opportunity to comment on and receive responses to the EIR's conclusions. Under these circumstances, the County must recirculate the EIR for public comment and responses.

IV. The AWCP Is Internally Inconsistent Because The Characterization Of Permits As Ministerial Is Inconsistent With The Requirements For Discretionary Review And Mitigation Of Biological Resource And Traffic Impacts

A general plan must be integrated and internally consistent, both among and within its individual elements. Gov. Code, § 63500.5. The internal consistency requirement cannot be evaded by incorporating a subordination or precedence clause that purports to reconcile conflicts. *Sierra Club v. Board of Supervisors* (1981) 126 Cal.app.3d 698, 708.

As conceived, the AWCP was intended to streamline the permitting of most wineries and winery-related activities and facilities in the overlay area. 2007 General Plan, p. AWCP-2; DEIR, pp. 3-39 to 3-40. Accordingly, the AWCP purports to require only a ministerial permit for most of the AWCP uses, which include 40 Artisan Wineries; 10 Winery Tasting facilities; an unspecified number of Agricultural/Winery visitor-serving uses such as produce stands; winery-related Food Service Facilities; Winery-Related Events involving 151 to 500 people; Guesthouses; Residential units; and

Employee Housing. 2007 General Plan, p. AWCP-14 to 15, § 3.3 ("Permitted Uses, Ministerial Permit Required In Each Case"). Only larger wineries, restaurants, and inns would require a discretionary administrative permit. 2007 General Plan, p. AWCP-15 to 16, § 3.4 ("Permitted uses, Administrative Permit Required In Each Case"). The EIR provides that "[a]ctivities allowed by right or subject to a ministerial permit would be exempt from environmental review under the California Environmental Quality Act (CEQA)." DEIR, p. 3-40. The AWCP itself states that environmental review would be limited to the extent permissible under CEQA. 2007 General Plan, p. AWCP-26, § 4.3.

Comments on the DEIR objected that future AWCP projects subject only to a ministerial permit would in fact cause significant impacts that have not been evaluated or mitigated in the 2007 General Plan EIR. In response, the FEIR proposes two additional mitigation measures that impose a discretionary permitting requirement on all AWCP facilities.

First, the FEIR revises Mitigation Measure TRAN-5A and/or the AWCP itself to require that all AWCP developments require a traffic study and appropriate mitigation measures until the County adopts a Traffic Impact Fee Program and CIFP for the AWCP:

> "Until such time as the County Traffic Impact Fee Program and CIFP for the AWCP are adopted, all new development in the AWCP will be required to prepare a Traffic Impact Analysis (TIA) regardless of the level of CEQA analysis conducted for the Project. Project-specific (Tier 1) mitigation measures identified in the TIA will be required to be implemented concurrently. If a TIA identifies a Traffic Tier impact, the development will be required to make a "fair share" payment for that impact. For discretionary permits and approvals, Policies C-1.3 and C-1.4 shall apply. In addition, all projects are subject to payment of the TAMC Regional Development Impact Fee." FEIR, p. 2-47; 2007 General Plan, p. AWCP-27 (incorporating the same language).[8]

Second, the FEIR revises the AWCP itself to require a biological study and administrative permit process if the study reveals the potential for a significant impact:

> "A biological study (as defined in Policy OS-5.16) shall be required for permanent facilities with the potential to affect biological resources. If the biological study indicates a potential for a significant impact on a biological resource, then an administrative permit shall be required." 2007 General Plan, p. AWCP-15; FEIR, pp. 2-34, 2-127.

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[8] It is unclear whether the County intends to implement the revision as a change to the AWCP or to Circulation Element Policy C-1.12, which is supposed to incorporate Mitigation Measure TRAN-5A into the Circulation Element. However, the revision would become part of the 2007 General Plan somewhere, since the FEIR states that mitigation measures would become General Plan policies. FEIR, p. 2-3.

When a local agency retains any discretion to review and approve a project or to impose mitigation as a result of such review, the project is discretionary, not ministerial, and is fully subject to CEQA. CEQA Guidelines, §§ 15357, 15369. Projects with both ministerial and discretionary attributes must be treated as discretionary. CEQA Guidelines, § 15268(d). Discretionary projects are fully subject to CEQA review. Public Resources Code, § 21080(a).

Project permitting is discretionary where an agency retains discretion to require changes or impose reasonable conditions based on professional judgment. *Friends of Westwood, Inc. v. City of Los Angeles* (1987) 191 Cal.App.3d 259, 271-272. Discretion also exists where standards guiding decision makers are relatively general rather than fixed and precise. *Id.*

Here, the requirements for traffic and biological studies and mitigation clearly make the permitting of *all* AWCP development projects discretionary, not ministerial. First, the power to require a traffic impact analysis and necessary mitigation clearly makes the permitting decision discretionary, not ministerial. *Miller v. Hermosa Beach* (1993) 13 Cal.App.4th 1118, 1124-1126, 1139.

Second, the administrative permit process required pursuant to a biological study that "indicates a potential for a significant impact on a biological resource" is a discretionary permit under Monterey County Code Chapter 21-70; and the AWCP acknowledges that administrative permits are discretionary. 2007 General Plan, p. AWCP-14. In addition, the threshold determination that a biological study is required at all (what the FEIR calls "initial project screening" – FEIR, p. 3-34) makes the permitting process discretionary, because the standard governing decision makers is general rather than fixed and precise: a study is required if a project has "the potential to affect biological resources." 2007 General Plan, p. AWCP-15.

Thus, the FEIR has acknowledged, and the 2009 General Plan has been revised to reflect, that at least two forms of discretionary review will be required of every AWCP projects, *including projects the AWCP characterizes as requiring only ministerial permits*. The AWCP's characterization of permits for those uses allowed under AWCP Section 3.3 as ministerial is therefore inconsistent with the requirements for discretionary review and mitigation of traffic and biological resource impacts.

CEQA requires that the County identify actions that it deems ministerial. CEQA Guidelines, § 15268(c). "However, a municipality's classification of a certain approval process as ministerial is *not* conclusive. 'The applicability of CEQA cannot be made to depend upon the unfettered discretion of local agencies, for local agencies must act in accordance with state guidelines *and the objectives of CEQA.*'" *Friends of Westwood, Inc., supra,* 191 Cal.App.3d at 270. Here, the AWCP's express acknowledgement that purportedly ministerial permits are actually subject to discretionary review renders the AWCP internally inconsistent on its face. Given the fact that the County has

acknowledged that the 2007 General Plan EIR process does not and cannot function as the terminal CEQA review for any AWCP projects, the only way to resolve this internal inconsistency is to abandon the pretense that any AWCP permits are ministerial.

V. Traffic Impacts

A. Significance Findings TRAN-1A, TRAN-2A, TRAN-3A, and TRAN-4A Are Not Supported By Substantial Evidence

The DEIR qualitatively evaluates, and finds less than significant, the "project-specific" impacts to roadway level of service under four sets of conditions:

- TRAN-1A – Existing plus Project Development to the Year 2030, Project-Specific Impacts of the Project (DEIR, pp. 4.6-31 to 33);
- TRAN-2A – Project-Specific Impacts of the Development under 2030 Cumulative plus Project Conditions (DEIR, p. 4.6-57 to 58);
- TRAN-3A – Project-Specific Impacts of the Development under Existing plus Project Buildout (DEIR, pp. 4.6-78 to 79);
- TRAN-4A – Project-Specific Impacts of the Development under Buildout Cumulative plus Project Conditions (DEIR, pp. 4.6-93 to 94).

However, the DEIR quantitatively evaluates, *and finds unavoidably significant*, the impacts from the future development permitted by the 2007 General Plan to dozens of specified County and Regional roads under the same four sets of conditions:

- TRAN-1B – County and Regional Roadway Level of Service Impacts (Existing plus Project Development to the year 2030) (DEIR, pp. 4.6-33 to 45);
- TRAN-2B – County and Regional Roadway Level of Service Impacts (2030 Cumulative plus Project) (DEIR, pp. 4.6-59 to 73);
- TRAN-3B – County and Regional Roadway Level of Service Impacts (Existing plus Project Buildout) (DEIR, pp. 4.6-80 to 88);
- TRAN-4B – County and Regional Roadway Level of Service Impacts (Buildout Cumulative plus Project) (DEIR, pp. 4.6-94 to 103).

In DEIR comments, LandWatch objected to the significance conclusions for the "A" scenarios (impacts TRAN-1A, 2A, 3A, and 4A) on a number of grounds. LandWatch's primary objections are 1) that the DEIR fails to define the geographic or analytical scope of the findings that it makes with respect to the A-scenarios, and 2) that the DEIR cannot consistently claim that cumulative impacts are less than significant in the A-scenarios but unavoidably significant in the B-scenarios.

1. Undefined Geographic Scope And Failure To Define Traffic "Tiers"

LandWatch objected that the DEIR fails to clearly define the geographic or analytical scope of its claims with respect to so-called "project-specific" impacts. With regard to the geographic scope, the DEIR defines these impacts as "localized impacts that affect the immediate surrounding transportation system," including "deficiencies in roadway or intersection operations in the immediate proximity of the development." DEIR, p. 4.6-31. LandWatch objected that this definition is so vague as to render the significance conclusion meaningless. FEIR, p. 7-681 to 682. LandWatch suggested that the EIR should restate its findings with reference to a defined geographic scope, such as the Institute of Transportation Engineers ("ITE") study area limits for traffic analyses. *Id.* LandWatch also objected that the terms "Tier 1, Tier 2, and Tier 3" used in the DEIR had not been defined in the DEIR, despite the DEIR's claim to the contrary. *Id.*

In response, the FEIR admitted that the DEIR had failed to define the crucial terms employed to discuss types of traffic impacts, "Tier 1," "Tier 2," and "Tier 3."[9] FEIR, p. 2-115 to 2-116. The FEIR then proceeded to define Tier 1 impacts as follows:

> **"Development-Specific Impacts (Traffic Tier 1)**
> As stated on DEIR page 4.6-31, "project (development)-specific impacts of new development are localized impacts that affect the immediate surrounding transportation system, including access and circulation necessary for the development to function properly and safely. Development-specific impacts occur where new development needs to gain access to County roadways and/or where traffic generated by new development causes development-specific deficiencies in roadway or intersection operations in the immediate proximity of the development."
>
> For purposes of the DEIR, Traffic Tier 1 development-specific impacts are defined as:
>
> □ On-site facilities necessary to provide vehicular, pedestrian, bicycle, freight and emergency access and circulation to the project.
> □ On-site or off-site connections and/or access between the project's on-site circulation and public roadways.
>
> It is County's policy to require concurrent mitigation of development-specific impacts (Traffic Tier 1)" FEIR, p-2116.

[9] Failure to define these critical terms in the EIR requires that the EIR be recirculated for public review and comment. These terms are clearly a critical part of the "project" under review, which consists largely of a collection of goals and policies. The shifting definition of the project here prevented the public from having a meaningful opportunity to comment and obtain responses.

This definition equates "impacts" with "on-site facilities" and "on-site or off-site connections and/or access." But impacts are effects on facilities, not the facilities themselves. Furthermore, the definition provided in the FEIR is inconsistent with the definition in the 2007 General Plan glossary, which defines Tier 1 impacts "impacts that are direct impacts on site, or off-site, but in the immediate vicinity of the project." 2007 General Plan, Glossary.

More problematically, neither definition specifies the geographic scope of the affected facilities – other than to repeat the DEIR's language – despite LandWatch's request for just that information. The public is left to guess at the meaning of the vague terms "immediate proximity," "immediate vicinity," and "immediate surrounding transportation system." As discussed below, the County's failure to define the geographic scope of Tier 1 impacts renders Policy C-1.3, which requires concurrent mitigation of Tier 1 impacts, so vague as to be unenforceable.

Although the FEIR's Master Response 6.2 also defines Tier 2 and Tier 3 impacts, it is not possible to deduce the geographic scope of the Tier 1 claims with reference to these other definitions. Tier 2 impacts are defined as impacts to County roads that are "typically farther away from the project site" (FEIR, p. 2-116) and Tier 3 impacts are defined as impacts to roads in the state highway system. FEIR, p. 2-117. So all that can be determined is that Tier 1 impacts are in the "immediate proximity" instead of "typically farther away" and do not include impacts to the state highway system facilities.

The FEIR also states that "[i]mpacts to the public roadway system, other than those related to gain [sic] access to the development, are considered Traffic Tier 2 and 3 impacts." FEIR, p. 3-213. This is entirely uninformative because all traffic impacts are related to gaining access to the development.

The FEIR failed to respond to LandWatch's suggestion that the County clarify the geographic scope of its claims with respect to the A-scenario impacts by referencing an objective standard, such as the geographic scope of traffic impact studies recommended by ITE. Instead, possibly in response to LandWatch's suggestion,[10] the FEIR stated that the "County generally utilizes Caltrans' Guide for the Preparation of Traffic Impact Studies (2002) to determine when a TIS [traffic impact Study] is required and the extent of the study." FEIR, p. 3-213. This response fails to identify Caltrans' requirements for the geographic scope of traffic studies or to relate those requirements to the EIR's findings that the A-scenario or Tier 1 impacts are less than significant. Furthermore,

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[10] Because the FEIR fails to number LandWatch's comments discretely and instead lumps together numerous specific objections and questions, it is difficult to determine to which comment the FEIR's response actually pertains. The failure to provide discrete responses to discrete comments is further aggravated by the fact that the FEIR lumped together three comments, O-11g.39-O-11g.41, in a single response. This violates CEQA's requirements for intelligible comment responses.

Caltrans is concerned with the geographic scope of analysis with respect to impacts on state highway facilities and would not provide any guidance to the proper scope of analysis for a project that affected only County roads.[11]

In short, the FEIR evades LandWatch's question and objection because it does not identify the geographic scope of the DEIR's claim with respect to the A-scenario or Tier 1 impacts. The public cannot evaluate the EIR's claim that some set of future traffic impacts will be less than significant, simply by virtue of adopted policies requiring concurrent mitigation, without knowing how those impacts will be defined in practice. More critically, future decision makers cannot be guided by the General Plan in deciding to require concurrent mitigation if the scope of this requirement is not clarified.

2. Unsupported And Inconsistent Claims Regarding Significance Of Traffic Impacts In The Localized Areas Around Future Projects

The EIR's A-scenario analyses purport to find traffic impacts in the immediate vicinity around future development projects permitted under the 2007 General Plan to be less than significant. The finding includes both cumulative and project-specific impacts. But the finding is directly at odds with the EIR's finding in the B-scenarios that dozens of County and Regional roads will experience unavoidably significant impacts, because some of these degraded roads will be within the immediate vicinity of future development projects.

CUMULATIVE IMPACTS: LandWatch objected that, while the term "project-specific" is typically contrasted with "cumulative" in CEQA contexts, the DEIR's A-scenario findings for "project-specific" impacts also purport to address cumulative impacts – at least those cumulative impacts in the "immediate vicinity" of future development projects. FEIR, pp. 7-679 to 681. LandWatch objected that this finding is unsupported and inconsistent with the finding that dozens of County and Regional roads will suffer significant level of service degradation as a result of development under the 2007 General Plan. FEIR, pp. 7-683 to 7-696.

For example, the DEIR scenario 2A, "Project Specific Impacts of the Development under 2030 Cumulative plus Project Conditions," purports to find that "project-specific" impacts will be less than significant. However, the DEIR discusses

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[11] Caltrans provides only that "[a]ll State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway." Caltrans, Guide for the Preparation of Traffic Impact Studies (2002), p. 2, attached as Exhibit 2, available at www.dot.ca.gov/hq/traffops/developserv/.../reports/tisguide.pdf.

cumulative impacts in this finding and directly implies that those cumulative impacts in the immediate vicinity of the development site would be rendered less than significant:

> "**Project-Specific Impacts of the Development under 2030 *Cumulative plus Project Conditions***
>
> **Impact TRAN-2A: Development allowed under the 2007 General Plan *cumulatively with other development to the year 2030* would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D. (Less Than Significant Impact).**
>
> **Impact of Development with Policies**
>
> Project-specific impacts of new development are described in Impact TRAN-1A. These are localized impacts that affect the immediate surrounding transportation system, including access and circulation necessary for the development to function properly and safely. *Some* project-specific impacts are exclusively attributable to the development such as access connections between the development site and public roadway system. *Other project-specific impacts such as impacts to the public roadway system in the immediate vicinity of the development site are cumulative with other development in the area.*
>
> 2007 General Plan Policies
>
> The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Existing plus Project Buildout scenario.
>
> **Significance Determination**
>
> Project-specific impacts of new development will continue to occur through buildout of the General Plan. As long as General Plan policies remain in effect, new development will be required to prepare a project-level traffic study, or project-level Environmental Impact Report. Impacts to roadway LOS or project access would be identified in these studies and development would be fully responsible for the implementation of mitigation measures or *would be responsible for its fair-share of the mitigation depending on the extent of the impact and the development's contribution to the impact along with other cumulative development.* If a roadway already falls below the County's LOS standard, then the development is required to mitigate its impact so that the measure of performance (e.g., volume to capacity ratio, peak hour average delay, etc.) of the roadway does not degrade beyond the level without the development. This is a less than significant impact.
>
> **Mitigation Measures**
> Impacts are less than significant, therefore no mitigation is necessary.

> **Significance Conclusion**
> Implementation of the 2007 General Plan consistent with policies related to project-specific localized impacts (Policy C-1.4, new development is required to mitigate project-specific local impacts to maintain the County's LOS standard and to provide adequate access and circulation facilities. Policy C-1.3 restricts new development or requires the phasing of new development so that it is concurrent with transportation improvements) would have a less than significant impact and no mitigation is required." DEIR, pp. 4.6-57 to 58, italics added for emphasis.

There is no question that this significance determination purports to find that cumulative impacts in the immediate vicinity of future development projects will be less than significant. This is evident from the following:

- The title of the section states that the determination relates to "2030 *Cumulative* plus Project Conditions."
- The summary finding that the impact is less than significant specifically references "Development allowed under the 2007 General Plan *cumulatively* with other development to the year 2030. "
- The impact analysis states that "some project-specific impacts" are attributable only to the development. The determination also states that *"[o]ther project-specific impacts such as impacts to the public roadway system in the immediate vicinity of the development site are cumulative with other development in the area*." This clearly equates the impacts under discussion with cumulative impacts.
- The significance determination references policies that require only payment of fair-shares for mitigation, depending on the development's contribution to the impact "*along with other cumulative development*." Fair share mitigation is typically appropriate only for cumulative impacts.

The DEIR makes similar findings using the same language with respect to Impact TRAN-3, "Project-Specific Impacts of the Development under Existing plus Project Buildout" and Impact TRAN-4A, "Project-Specific Impacts of the Development under Buildout Cumulative plus Project Conditions." DEIR, pp. 4.6-78 to 79, 4.6-93 to 94.[12]

The FEIR reiterates that "localized" cumulative impacts are included in the analysis of TRAN-2A and the related less-than-significant impact finding:

> "With respect the fee-based mechanisms included in the General Plan's Circulation Element, the EIR recognizes that even with adoption and implementation of the County Capital Improvement and Financing Plan (CIFP) and Traffic Impact Fee (TIF) (Policies

[12] Note that none of the DEIR's A-scenario analyses are revised in the FEIR, even to correct citations to Policies that were renumbered in the FEIR. FEIR, pp. 4-107 to 108.

> C-1.2 and C-1.8) and the TAMC Regional Traffic Impact Fee (Policy C-1.11) the proposed 2007 General Plan will have a significant and unavoidable impact on County roads and Regional roads both within and external to Monterey County. (DEIR, p. 4.6-45.) *This conclusion is not applicable to* direct impacts (Impact TRAN-1A) or *cumulative impacts from new development projects (Impact TRAN-2A), i.e., localized on-site or off-site impacts to roadways necessary for access to the project*, because all new development will be required to concurrently construct circulation improvements that mitigate such impacts pursuant to proposed Policy C-1.4 [sic, probably referring to former C 1.4 that the FEIR revises and renumbers as Policy C 1.3], or pay "fair-share" fee for cumulative impacts until the countywide fee program is adopted." FEIR, p. 2-187, emphasis added.

Thus, the FEIR continues to assert that "localized" cumulative impacts will not be significant.

PROJECT-SPECIFIC IMPACTS: Even if the DEIR had not claimed that cumulative impacts would be less than significant, its claim that project-specific impacts will be less than significant fails for essentially the same reason. The "project" under review here is the 2007 General Plan, and this program-level EIR must, and does purport to, evaluate the effects of all development permitted by the 2007 General Plan. Thus, even if we ignore cumulative impacts from cities and adjacent jurisdictions, the claim that project-specific impacts in localized areas will be less than significant is a claim that the combined development in unincorporated areas of the County will not result in significant impacts in the immediate vicinity of future development projects. The EIR's analysis of the impacts of just the development in the unincorporated area of the County, excluding cumulative impacts from cities and adjacent counties, still concludes that County and Regional roads will suffer unavoidably significant impacts. DEIR, pp. 4.6-33 to 38 (scenario 1B, analysis through 2030, identified as the "project level analysis required under CEQA at p. 4.6-38), 4.6-80 to 88 (scenario 3B, analysis through buildout).

LandWatch objected that the term "project-specific" is used equivocally in the A-scenario discussions to include 1) individual future development projects and 2) the approval of the 2007 General Plan itself (the "project" currently under review). FEIR, p. 7-679 to 680. LandWatch also objected that the term "project-specific" was not used in the conventional CEQA sense in which "project-specific" impacts are contrasted with cumulative impacts. In response, the FEIR unhelpfully states that "project-specific" means "development-specific" and then repeats the DEIR's definitions of project-specific impacts as those in the "immediate proximity" of the development. FEIR, pp. 3-212 to 213. The purported distinction between "project-specific" and "development-specific" impacts (FEIR, p. 3-212) cannot rescue the County's claims, because the purpose of this EIR is to evaluate approval of the 2007 General Plan, not some unspecified future development project. Even if the A-scenario analyses purport to evaluate impacts <u>from</u> some unspecified discrete future development projects rather than <u>from</u> the project that is adoption of the 2007 General Plan as a whole, which would be pointless and misleading, those impacts will still occur in the context of all of the development permitted by the 2007 General Plan. And in this context, adding more traffic to admittedly degraded

facilities is a significant impact that the EIR concludes to be unavoidable because it is 1) beyond the capacity of individual projects to concurrently mitigate and 2) beyond the capacity of the County or other agencies to mitigate through identified funding sources.

Revisions to critical terms and policies after the close of public comments further muddy the analysis. As revised after the close of the public comment period, the 2007 General Plan Glossary definitions of Tier 1 and 2 now purport to distinguish "direct" and cumulative impacts, limiting Tier 1 impacts to "direct" impacts and including both "direct" and cumulative impacts in Tier 2. 2007 General Plan, PC Working Draft – March 2010, Glossary. If this is intended retroactively to qualify the DEIR's claims regarding the significance of the A-scenario impacts it will not suffice for two reasons.

First, because the term "direct" is not commonly used to distinguish cumulative from project-specific impacts (see CEQA Guidelines, § 15064(d)) and because the original definition of Tier 2 impacts did not iterate "direct or cumulative impacts," the public was not apprised of any possible limitation in the DEIR's claims with respect to the A-scenario cumulative impacts. And, as noted above, the DEIR's discussion clearly concluded that both project-specific and cumulative impacts in the immediate vicinity of future projects would be less than significant.

If the revisions in the definitions of terms is in fact intended to retract the DEIR's claim that cumulative impacts in the immediate vicinity of future projects are less that significant, the County has acknowledged a new or more severe significant impact and must recirculate the EIR on that account.

Second, there is frequently no obvious practical distinction between project-specific impacts (what the EIR may refer to as "direct" impacts) and cumulative impacts in the context of traffic impacts. Project-specific impacts are not evaluated in a vacuum; they are typically evaluated within at least the context of existing traffic conditions, and sometimes in the context of the future conditions projected as of occupancy. Cumulative impact analysis must consider *past and present* as well as foreseeable future development. Thus, any addition of traffic to an already congested facility can be considered both a project-specific ("direct") impact and a cumulative impact. And as LandWatch pointed out in its DEIR comments, where existing conditions are currently acceptable but are projected to degrade to an unacceptable level in the future, some individual project will eventually constitute the last straw. The EIR fails to clarify what responsibility an individual project will have to concurrently mitigate its aggravation of degraded conditions or its responsibility for pushing the Level of Service from acceptable to unacceptable.

CONTRADICTORY FINDINGS: LandWatch objects in particular to the inconsistency in the DEIR's claim that impacts in the "immediate vicinity" of future development projects would be less than significant even though the DEIR finds that the level of service on County and Regional roads will be degraded by the combined effect of development under 2007 General Plan and cumulative development by cities and

adjacent jurisdictions. FEIR, pp. 7-683, comment 41; 7-696, comment 43. And, as noted above, adoption of 2007 General Plan will degrade service levels even without cumulative traffic from cities and adjacent counties. There is simply no way to reconcile the DEIR's A-scenario findings that the impacts of future development projects will be less than significant and the DEIR's B-scenario findings that dozens of County and Regional roads will experience unavoidably significant impacts – because some of those facilities will be in the "immediate vicinity" of future development projects that will add even more traffic to them.

LandWatch pointed out that unless the "immediate vicinity" of future projects is limited to their driveways, many of the localized areas will include the impaired County and Regional roads. FEIR, p. 7-683 to 684. The FEIR acknowledges that the County and Regional roads that will be degraded may be included in the project study area evaluated in a Traffic Impact Study. FEIR, p. 3-213. Thus, it is not possible for the EIR to consistently find 1) that impacts in "localized" areas are less than significant in the A-scenarios and 2) that impacts to these same facilities are unavoidably significant in the B-scenarios.

RESPONSE TO COMMENTS: The FEIR simply does not acknowledge or address these comments. For example, in comment O-11g.39, LandWatch specifically asked whether impacts to County and Regional Roads within the "localized area" included in the Tier 1 area would be considered Tier 1, 2, or 3 impacts. FEIR, p. 7-681. The FEIR did not answer the question. Instead, it claimed that the less-than-significant finding was simply an analysis of "County policy."

> "The finding of less than significance in the General Plan DEIR for Impact TRAN-1A, 2A, and 3A related to Traffic Tier 1 impacts reflects the County's policy to require concurrent mitigation of development-specific impacts (see clarification of Traffic Tier 1 impacts in response to comment 38). The specific geographic areas that fall under the localized Traffic Tier 1 TIS analysis area cannot be identified in the General Plan DEIR, as they represent development proposals that are as of yet unknown. The analysis of Traffic Tier 1 impacts in the General Plan DEIR reflects an evaluation of County policy, not specific development proposals." FEIR, p. 3-213.

While a general plan EIR does evaluate policies, it must do so in the context of *projected future development under those policies*. The problem with the A-scenario analyses and with the FEIR's response is that it simply ignores the fact that permitted development is projected to significant degrade the very facilities at issue in the immediate vicinity of future projects.

Despite the implication in the FEIR's response, LandWatch did <u>not</u> ask the County to identify the location of specific future development projects in connection with traffic impacts. As discussed above, LandWatch asked the County to 1) explain how it would go about defining the geographic scope of the "localized area" or "immediate vicinity" for which concurrent mitigation is required in the future; 2) explain whether that area might include a County or Regional road with unavoidably degraded service, and 3)

explain how a development project that adds traffic to such a degraded facility could possibly be found to have less than significant impacts. The FEIR does not do this. Thus, it fails to respond to comments as CEQA requires, and it fails as an informational document.

LandWatch specifically stated that the policies enumerated in the DEIR to support the conclusion that impacts would be mitigated in the "localized area" of Tier 1 analysis do not support that conclusion. FEIR, pp. 7-683 to 7-696. LandWatch closely evaluated each policy cited by the DEIR and explained why it would not in fact support the significance determination, especially with respect to cumulative impacts. *Id.*

The FEIR's response to these detailed comments was entirely evasive and incomplete. For example, in a section of the comment response captioned "Mitigation of Cumulative (Traffic Tier 3) impacts" the FEIR claimed that "the commenter's reference to 'A' scenarios is irrelevant to Policies C-1.1 and C-1.2 since the Traffic Tier 1 impacts discussed in the 'A' scenarios of the DEIR traffic analysis are required to be mitigated concurrent with development." FEIR, p. 3-216. The very caption of this response misses the point of LandWatch's comments, which was to point out that these policies could not be cited to support findings related to *Tier 1* impacts.

Similarly, the FEIR entirely missed the point of LandWatch's discussion of the inadequacy of "APFS" policies (Policies PS-1.1 to 1.6) to support the finding that cumulative impacts in the A-scenarios are less than significant. Instead of responding to the point LandWatch made, the FEIR simply explains the APFS policies in general terms and states that LandWatch's "comment appears to be directed at traffic related issues." Nowhere does the FEIR engage the substance of LandWatch's objection that the A-scenarios analyses cannot cite the APFS policies as support for the conclusion that impacts in the localized Tier 1 area would be less than significant.

When the FEIR does finally note that LandWatch objects that the analysis in the A-scenarios improperly concludes that localized cumulative impacts will not be significant, the response is even shallower and further from the point:

> "The comment states that "A" scenarios in the DEIR do not mitigate cumulative impacts. The reference of 2007 General Plan Policies C-1.3, 1.4, C-2.1, 2.2, and 2.7, C-3.5, 4.3, 4.5, and 4.9, and LY-1.4 and 1.7 in the "A" scenario impact discussion are included only as they relate to the mitigation of Traffic Tier 1 impacts concurrent with development as discussed above." FEIR, p. 3-216.

Again, the response does not acknowledge the substance of the comment. Nor does it make any sense. Although the basis of the EIR's finding that the A-scenario impacts are less than significant is not consistently stated in the EIR, the DEIR cites a host of policies as the basis of this conclusion, including the following:

- Policy C 1.4 (originally numbered Policy C 1.3 in the DEIR) requiring phasing and fair share payments;
- Policy C 1.3 (originally numbered Policy C 1.4 in the DEIR) requiring concurrent mitigation of Tier 1 direct on-site and off-site project impacts, but permitting a project merely to make fair share payments for Tier 2 and 3 impacts;
- Policies 2.1, 2.2, and 2.7 requiring land uses to be located with access to transportation facilities;
- Policies C3.5, 4.3, 4.5, and 4.9 pertaining to alternative transportation;
- LU policies 1.4 and 1.7 requiring adequate facilities and encouraging phasing and clustering; and
- Various area plan policies, none of which apply County-wide.

DEIR, pp. 4.6-31 to 32, 58, 79, 93.

None of these policies except revised Policy C 1.3 calling for concurrent mitigation of Tier 1 direct on-site and off-site project impacts could possibly be relied upon to support the EIR's claim that traffic impacts in the immediate vicinity of future projects will be less than significant due to the concurrent mitigation requirement because only Policy C 1.3 speaks to the concurrent mitigation requirement. The FEIR admits as much by repeatedly characterizing the A-scenario analyses as analyses of "policy." *See, e.g.*, FEIR, pp. 3-212 (response O-11g.36); 3-213 (response O-11g.39 to 41). However, the FEIR does not revise the DEIR's analyses to clarify that it rests solely on Policy C 1.3 and continues to insist that these other policies are somehow relevant to the significance determination. FEIR, p. 3-216. But Policy C 1.3 itself cannot be relied upon to address cumulative Tier 1 impacts because, as discussed below, the confused use of the qualifier "direct" in Policy C 1.3 may be intended to limit the concurrent mitigation requirement to non-cumulative impacts, even though the term "direct" does not in fact mean "non-cumulative" in typical CEQA contexts. CEQA Guidelines, § 15064(d).

LandWatch specifically objected that the findings for the A-scenario impacts did not constitute an adequate cumulative impact analysis. FEIR, p. 7-696, comment O-11.g.43. In response the FEIR simply repeated the definition of Tier 1 impacts, but without even using the term "cumulative." FEIR, p. 3-218, response O-11.g.43. Again, this response is inadequate.

The fundamental problem with the FEIR's responses appears to be a failure to recognize that 1) future development discussed in the A-scenarios will add traffic to facilities that are already degraded or that the EIR projects to be degraded as a result of future development, and 2) a future development project that adds traffic to degraded facilities cannot be said to have a less than significant impact.

Another problem with the FEIR's response is that it fails to reflect changes made to the critical Policy C 1.3 in the FEIR itself that apparently limit the concurrent mitigation requirement for Tier 1 impacts to so-called "direct" impacts, a term that the FEIR confusingly and improperly uses to refer to non-cumulative project-specific

impacts. Policy C 1.3 is the sole policy that specifically addresses the requirement to mitigate Tier 1 impacts concurrently. If the limiting term "direct" in Policy C 1.3 is intended to excuse development projects from concurrent mitigation of cumulative Tier 1 impacts, then there is *no* apparent basis to claim that cumulative Tier 1 impacts will be less than significant. As noted above, if the revision of Policy C 1.3 is intended to admit that cumulative impacts in the A-scenarios are significant, then the EIR must be recirculated on that account. CEQA Guidelines, § 15088.5(a).

3. Consequences Of The Failure To Define Tier 1 Geographically And The Improper Significance Findings

The County intends to rely on revised Policy C-1.3 to require concurrent mitigation of traffic impacts by construction of improvements "that mitigate Traffic Tier 1 direct on-site and off-site project impacts." 2007 General Plan, PC Working Draft – March 2010, Policy C 1.3. Tier 1 impacts are defined as "direct impacts on site, or off-site, but in the immediate vicinity of the project." 2007 General Plan, PC Working Draft – March 2010, Glossary. Because the County has refused to clarify the geographic scope of the "immediate vicinity of the project," and because the revision of Policy C 1.3 creates ambiguity as to the requirement for concurrent mitigation of cumulative Tier 1 impacts, the County will not be able to enforce Policy C 1.3. Not only does this violate CEQA's requirement that mitigation be enforceable, but it vitiates the significance determination in the A-scenarios.

Without an objectively defined geographic scope, neither the public nor decision makers can meaningfully evaluate the significance determinations in the EIR that critically depend on a definition of the "immediate vicinity" of future projects.

The omission of the definitions of Tiers 1, 2, and 3 from the DEIR, the revisions of the 2007 General Plan Glossary definitions after the public comment period for the DEIR, the inconsistencies between the definitions in the 2007 General Plan Glossary and the FEIR itself, and the substantial revisions to the operative Circulation element policies after the public comment period all constitute a failure to adequately describe the 2007 General Plan project. The absence of an accurate, stable, and complete project description substantially impaired the public's ability to understand and comment on the EIR.

The wholesale revision of Circulation and Public Services policies and the critical definitions of Tier 1, 2, and 3 after the close of the public comment period requires that the County recirculate the EIR for public comment. Not only was the public deprived of an opportunity to comment meaningfully on the actual project, it appears possible that the County is attempting to retroactively limit the significance determination in the A-scenarios in order to avoid the contradictory significance findings in the DEIR that LandWatch pointed out.

B. Circulation Plan Inadequate Under Planning And Zoning Law

1. Lack of Correlation And General Plan Inconsistency

As LandWatch pointed out in its DEIR comments (FEIR, pp. 7-697 ff.), the 2007 General Plan Circulation Element fails to meet the requirements of Government Code section 65302(b), including its requirements to set out the location and extent of transportation facilities "correlated with the land use element of the plan." The 2007 General Plan also fails to meet the internal consistency requirement of Government Code section 65300.5. These provisions require the circulation element to set forth service standards as well as proposals to address changes in roadway demand caused by changes in land use. *Concerned Citizens of Calaveras County v. Calaveras County Board of Supervisors* (1985) 166 Cal.App.3d 90, 100. Specifically, growth must not impair circulation standards. *Id*. at 99-103. In *Concerned Citizens of Calaveras County* the court held that achieving the mandatory correlation of the circulation and land use elements required that a county actually identify funding sources and a real plan to address deficient levels of service before allowing additional growth. *Id*. at 103.

LandWatch pointed out that the 2007 General Plan fails to meet statutory requirements for three reasons:

- Goal C-1 and Policy C 1.2 specify an acceptable level of service, but do not require that it be met for 20 years, which is effectively at the end of the current planning horizon. Thus, for essentially all of the period in which this general plan is likely to be in effect, there will be no effective service standard. A practical consequence is that the County can continue to approve development projects without adequate mitigation, claiming that it will eventually get around to solving the problem.

- Neither the EIR nor the 2007 General Plan itself identify the additional transportation facilities necessary to meet the service standard, because the EIR admits that the facilities identified in the Circulation Element will not in fact meet the Level of Service Goal.

- The County admits that it does not have, and cannot identify, sufficient funding sources to provide even the additional transportation facilities that are identified, much less the additional unidentified facilities that will be necessary to meet service standards.

Although the FEIR simply ignored these comments (FEIR, p. 3-219, response O-11g.46), the FEIR makes numerous changes to Circulation Element Policies and makes a number of claims and admissions relevant to the comments. However, the FEIR's policy changes and claims regarding the adequacy of these policies do not resolve the defects LandWatch identified. Indeed, the FEIR's continuing admissions that the County has no

expectation that it can fund the necessary transportation facilities simply confirms the defects. Accordingly, LandWatch reiterates its objections.

The FEIR revises the DEIR's text to once again acknowledge that the County cannot fund necessary facilities to attain the mandated level of service:

> "Even with implementation of project-specific mitigation measures, implementation of improvements funded through payment of a countywide impact fee, and implementation of improvements funded through the TAMC regional impact fee, *there will remain a funding shortfall* for the implementation of the financially constrained capital facilities in the Regional Transportation Plan. Implementation of the mitigation listed above in conjunction with the 2007 General Plan policies, and working collaboratively with cities and regional agencies would contribute to the mitigation of roadway LOS impacts. However, even with the adoption of county and regional impact fees, which fund a limited number of transportation facilities, traffic impacts to County and regional roadways will remain significant and unavoidable." FEIR, p. 4-106, revising DEIR p. 4.6-44, emphasis added.

The revised text goes on to acknowledge that even if all of the roadways identified by the County for inclusion in a future County impact fee program (yet to be devised or adopted) and all of the roadways included in TAMC's Regional Traffic Impact Fee Program were actually constructed, they would not mitigate impacts, *i.e.*, would not result in meeting service standards. FEIR, pp. 4-106 to 107, revising DEIR, p. 4.6-45.

The 2007 General Plan itself admits that "[m]eeting transportation needs in an era of limited funding presents a significant challenge." 2007 General Plan, p. CIRC-1. It then states that "[t]he County recognizes that regional population growth as well as ongoing regional employment growth poses significant challenges for planning an effective long-term transportation system." *Id.* While the Circulation Element goes on to assert that "*[p]art* of the response is to link circulation strategies with those of population growth, environmental quality, and economic well-being," it does not claim that this partial response is sufficient and it simply does not meaningfully address the funding shortfalls admitted by the EIR. *Id.*, emphasis added. Instead, its narrative section concludes with a wish and a prayer that acknowledge the lack of sufficient funding and the lack of a plan to obtain that funding:

> "Collaboration with the State (Caltrans) and regional transportation agencies (TAMC) is a key element of the long-term transportation strategy. Developing and implementing funding solutions are also necessary." *Id.,* p. CIRC-2.

As the court held in *Concerned Citizens of Calaveras County, supra,* 166 Cal.App.3d at 102-103, vague proposals to seek funding from other agencies are not sufficient to achieve statutorily mandated correlation of circulation and land use elements.

But such vague proposals are precisely what the 2007 General Plan offers through its policies C 1-5 (coordinate planning), C 1.6 (encourage TAMC to find funds), C 1.7 (seek funding from TAMC and "other available resources"), C 1.9 (use "all available public and private sources" of funding), C 1.10 (coordinate with TAMC to continue efforts to improve traffic congestion).

Again, while Policy C 1.8 calls for development of a County Traffic Impact fee, Policy C 1.11 requires that new development pay TAMC's Regional Traffic Impact fee, and Policies C 1.2 through C 1.3 address the provision and funding of some improvements, the EIR admits that these impact fee policies for new development will not be sufficient to ensure that service standards are met because funding will not be sufficient. FEIR, p. 4-106 to 107.

Indeed, the FEIR repeatedly admits that its fee-based mitigation will not be sufficient to attain service standards. *See, e.g.,* FEIR, pp. 3-215 (mitigation of impacts may not occur concurrent with development). The FEIR admits that existing deficiencies in service standards cannot be corrected by new development and that other funding is necessary, but it does not identify those other sources of funding and admits that development will proceed regardless. FEIR, p. 3-217.

In short, neither the 2007 General Plan nor the EIR identify all of the necessary facilities to meet service standards, and the County admits that it cannot fund the facilities that *are* identified.

LandWatch has suggested and now suggests again that the County prohibit development that causes or makes a considerable contribution to significant traffic impacts, *i.e.*, failures to meet level of service standards. Merely requiring projects to pay impact fees when those fees are admittedly insufficient does not meet CEQA's requirements for fee-based mitigation and will not result in the required correlation and consistency of the 2007 General Plan because it will not ensure that necessary improvements are constructed concurrently with development projects.

The revisions to the Circulation Element policies in the FEIR do not resolve this failure to ensure that development does not outpace circulation improvements. For example, as revised by the FEIR, Policies C 1.3 and 1.4 still do not in fact require concurrent mitigation of traffic impacts. Without effective concurrent mitigation, the policies cannot be said to support the overarching goal of attaining acceptable service levels.

First, Policy C 1.3 permits the mere payment of fees pursuant to C 1.8 and C 1.11 instead of concurrent mitigation, even though the EIR admits that payment of these fees will not be sufficient to prevent degraded levels of service. The County has not developed the Countywide Traffic Impact Fee called for by Policy C 1.8, and there is nothing in Policy C 1.8 that requires that this fee actually include all necessary foreseeable future improvements, which the County has not even fully identified. And

the EIR admits that the TAMC Regional Traffic impact fee will not be sufficient to construct all needed improvements.

Second, the phasing requirements in Policy C 1.4 will not ensure that mitigation is concurrent. Policy C 1.4 purports to require phasing of development when a project is "found to result in reducing a County road below the applicable minimum LOS standard," but it contains an exception that permits the ineffective payment of an impact fee when a facility is already degraded but is listed as a "high priority" in the yet-to-be-developed Capital Improvement and Financing Plans. The 2007 General Plan does not define "high priority" improvements or provide any evidence that the priority ordering of necessary improvements will somehow resolve the funding shortfall. The FEIR fails to respond to Landwatch's comment requesting that the previously used term "top priority" be given an intelligible, objective definition that ensures that these capital improvement projects will actually be constructed before development projects requiring them are occupied.[13] FEIR, p. 7-693. The FEIR simply says that "as high priority capital improvement projects are completed, low priority projects are moved into the high priority list and the fee is recalculated."[14] FEIR, p. 3-215. This does not respond to Landwatch's comment and does not provide any explanation of how "high priority" will be defined and what it will mean in practice.[15] For example, the County could easily

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[13] The FEIR cannot dismiss these comments as unrelated to CEQA concerns, since LandWatch's objections to these policies was based not just on their insufficiency under the Planning and Zoning law but also on their insufficiency to support CEQA findings with respect to impacts TRAN-1A, 2A, 3A, and 4A. FEIR, pp. 7-683 to 7-696; see in particular, p. 7-693 (requesting and proposing clear definition of "top priority" in support of the claim that Policies C 1.3 and C 1.4 will ensure that these impacts are less than significant).

[14] The FEIR revises Policy C 1.2 to require the County to "categorize transportation projects as 'high,' 'medium,' or 'low' priority, but that revision does not explain what these terms mean or what practical significance they will have. FEIR, p. 2-112. Again, merely sorting a list into priority order cannot by itself ensure that development does not proceed without adequate infrastructure.

[15] The suggestion that the fee would be "recalculated" when lower priority projects are reclassified as high priority projects implies that the cost of the lower priority projects will not actually be included in the fee. But if the projects have been identified as necessary to mitigate foreseeable congestion under the California Mitigation Fee Act, Government Code sections 66000-66025, the omission of their cost from the fee would ensure that the fee is *not* sufficient. (If the lower priority projects are not necessary then, they cannot be included in the fee under the Mitigation Fee Act.) An impact fee should cover a project's pro rata share of the cost of all facilities necessary to support future development through a reasonable planning horizon. The vague references to prioritization and recalculation suggests strongly that the County does not intend to exact

define the top half of its list of necessary capital improvements as "high priority," but if it does not have the funds available to construct these improvements before development projects requiring them are occupied, the mere prioritization of the improvements will not make any practical difference.

Furthermore, the revision of Policy C 1.4 fails to resolve a fundamental ambiguity regarding cumulative impact mitigation to which LandWatch objected in its DEIR comments. As written, Policy C 1.4 still only applies to "projects that are found to result in reducing a County road below the applicable minimum LOS standard." As LandWatch pointed out in DEIR comments, the policy can be read to permit approval of a development project that makes a cumulatively considerable contribution to a significant impact without concurrent mitigation or phasing as long as that project is not individually, by itself, the one project (*i.e.*, the "last straw" project) that is responsible for "reducing a County road below the applicable minimum LOS standard." FEIR, pp. 7-684 ff. For example, a project's traffic study might conclude that service levels on a County road would not be degraded below acceptable levels on opening day based on adding the project's trips to existing traffic, but that study may also conclude that the project's traffic represents a considerable contribution to a cumulatively significant level of service degradation based on foreseeable additional traffic from other expected development. Because Policy C 1.4 does not clearly identify the project's considerable contribution to this foreseeable degradation of service as an instance of "reducing a County road below the applicable minimum LOS standard," it is not clear that the policy would require phasing of that project. Thus, the County could approve numerous individual projects that would, in combination with existing and foreseeable future development, reduce service below acceptable levels without phasing those projects.[16] The suggestion is not far-fetched; the fact of dozens of existing degraded County roadway segments demonstrates that the County has failed in the past to ensure that development pays its way. DEIR, pp. 4.6-34 to 35. Thus, as written, Policy C 1.4 does not support but instead frustrates the 2007 General Plan's goal of attaining acceptable service levels because Policy C 1.4 does not ensure that necessary improvements will be provided concurrent with development.

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fees sufficient to cover the costs of all necessary facilities through a reasonable planning horizon.

[16] Eventually, service levels would degrade below acceptable levels from the combined effects of existing traffic and newly approved projects. At this point, however, Policy C 1.4 would allow additional projects to be approved without phasing as long as a CIFP identified that County road as a "high priority." As discussed above, there is nothing in the 2007 General Plan that ensures that the designation of the County road or a set of improvements thereto as "high priority" will ensure that mitigation is actually concurrent with development.

The FEIR defends the proposed fee-based mitigation by citing *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1187. FEIR, p. 2-117 (Master Response 6.3, Adequacy of Traffic Impact Fees). But *Anderson First* is clear that fee-based mitigation is not adequate mitigation under CEQA when the program has not yet been adopted or when impact fees will not be sufficient to construct necessary improvements. And *Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342, 364, 379-380 and *Concerned Citizens of Calaveras County*, *supra,* 166 Cal.App.3d at 102-103 both hold that an agency cannot base a general plan consistency finding on an admittedly unfunded circulation element. Here, the County has not even adopted its own impact fee program (despite claims to the contrary in the DEIR) and it admits that impact fees will not be sufficient to fund necessary improvements.

The FEIR also claims that it "is not required to guarantee potential outside funding sources described in the General Plan and EIR and may conclude the impact will remain significant and unavoidable if implementation of the mitigation plan is not reasonably certain," citing *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2004) 126 Cal.App.4th 1180. But in *Federation of Hillside and Canyon Associations*, the City based its finding that impacts were unavoidably significant *only* on the fact that it was not in a position to *compel* funding from other agencies. *Id*. at 1196-1197. In fact, the Court noted that the City had specifically found that its own contributions were secure and that the necessary contributions from other agencies were likely. *Id.* The Court specifically distinguished the circumstances from those in *Concerned Citizens of Calaveras County*, in which the agency had, as the County has here, *admitted* that funding would not be sufficient.

2. Incomplete and Inconsistent Policies

LandWatch's DEIR comments identified a number of incoherent, incomplete, and inconsistent 2007 General Plan policies related to circulation. FEIR, pp. 7-698 to 7-703. The FEIR did not respond to these comments. FEIR, p. 3-219. Revisions to circulation element policies in the FEIR fail to cure the defects in those policies. We reiterate the most egregious problems that render the 2007 General Plan incomplete, incoherent, and inconsistent. Defects in these policies violate the Planning and Zoning Law. To the extent that the EIR relies upon these policies to support its findings that impacts TRAN-1A, 2A, 3A, and 4A are less than significant, their defects violate CEQA.

POLICIES C 1.3 AND C 1.4 WOULD PERMIT UNMITIGATED CUMULATIVE IMPACTS: Policies C1.3 and C1.4 have been revised to renumber them, to eliminate the reference to cumulative impacts, and to reference instead Tier 1 (localized), Tier 2 (County roadway) and Tier 3 (regional roadway) impacts. FEIR, pp. 2-112 to 113, 3-215. The FEIR states that Tier 2 impacts include both "direct" (i.e., a

future development project's own individual impacts in the context of existing traffic)[17] and cumulative impacts (*i.e.*, a future development project's contributions in the context of existing and foreseeable future traffic). FEIR, p. 2-116; 2007 General Plan, Glossary, p. 15. Presumably, Tier 3 impacts would include both "direct" and cumulative impacts.

As discussed in the previous section, the revised Policies C 1.3 and C 1.4 still do not ensure that development will not proceed without concurrent mitigation, and still do not support the goal of acceptable levels of service, for the following reasons:

- Phasing may not be required unless a project is the "last straw," *i.e.*, the project that by itself pushes service from acceptable to unacceptable. In particular, phasing may not be required for projects that make a considerable contribution to a cumulatively significant impact.

- If Policy C 1.4 is in fact intended to require phasing of projects that make a considerable contribution to a cumulative impact, it must be revised to say so explicitly, and the County must identify criteria for "considerable contribution," *e.g.*, any increase in V/C ratio for a facility already at an unacceptable level of service.

- Tier 2 and Tier 3 impacts in Policy C1.3 must be defined so that a project that makes a considerable contribution to an unacceptable level of service must be phased. This requires that the County rewrite the policy and/or definitions of Tier 2 and Tier 3 impacts to provide criteria for a considerable contribution to a cumulative impact so as to ensure that unmitigated impacts do not eventually result in degraded LOS without any project being required to address the impact. An appropriate criterion would be *any* increase in the V/C ratio of a facility that is already at an unacceptable level of service.

- Policy C1.3 must be revised to identify a specific mechanism whereby "off-site circulation improvements which mitigate cumulative impacts . . . shall be constructed concurrently with new development" for those

[17] As noted, the apparent use of the term "direct" impacts to refer to a future development project's own individual impacts in the context of existing traffic is improper. CEQA distinguishes "direct impacts" from "indirect impacts," not from cumulative impacts. CEQA Guidelines, § 15064(d). All traffic impacts, including the impacts caused by a project's contribution to cumulative impacts, are direct impacts. The County must revise Policy C 1.3 in particular to clarify this before adopting the language if it does intend that the term "direct impacts" exclude cumulative impacts. However, as discussed above, if the term "direct impacts" does exclude cumulative impacts, then there is nothing in Policy C 1.3 to support the EIR's significance findings that cumulative Tier 1 impacts will be fully mitigated, because Policy C 1.3 only requires concurrent mitigation of "Traffic Tier 1 *direct* on-site and off-site project impacts . . .."

> cumulative impacts that will *not* be completely mitigated by the proposed County TIF and the TAMC TIF. That is, if the impact fees are not adequate to address particular impacts, as the EIR admits they will not be in many instances, then the policy must provide that improvements will be provided concurrently through some other mechanism.

In sum, as written, Policies C 1.3 and C 1.4 fail to require that future development projects adequately mitigate cumulative impacts.

POLICY C 1.3 IS UNENFORCEABLY VAGUE WITH RESPECT TO MITIGATION OF TIER 1 IMPACTS: As discussed above and as LandWatch objected in its DEIR comments, neither the 2007 General Plan nor the EIR provide objective criteria for the temporal or geographic scope of "Tier 1 direct on-site and off-site project impacts," for which Policy C 1.3 requires concurrent mitigation. The policy must be revised to indicate how the geographic scope of these impacts will be determined, *e.g.*, using the ITE traffic study guidance. Furthermore, if the term "direct" is intended to limit the concurrent mitigation requirement to non-cumulative Tier 1 impacts, then there is no apparent requirement to mitigate cumulative Tier 1 impacts concurrently, and Policy C 1.3 does not support the goal of acceptable service levels.

POLICY C 1.1b IS UNENFORCABLY VAGUE: The term "degraded further" in Policy C1.1(b) must be defined to include any increase in the V/C ratio of a facility that is already at LOS D. Without an objective definition of the phrase "degraded further," the County will have no consistent or objective basis to determine what impacts constitute a considerable contribution to a significant cumulative impact.

NO POLICIES PROVIDE FUNDING TO ADDRESS EXISTING SERVICE DEFICIENCIES: A policy to address existing LOS deficiencies caused by past development, development currently in the entitlement process but not subject to the 2007 General Plan, and development for which no further entitlements are required must be developed that identifies actual funding sources. As the FEIR admits, development impact fees cannot be used for this purpose due to nexus and proportionality requirements. FEIR, p. 3-217. A review of Policies C 1.1 through C 1.12 demonstrates that there are no adequate policies to address the substantial existing degradation of service levels below the target LOS D.

- Policy C 1.1 simply sets the target LOS and provides for exceptions to LOS D.

- The revised language of Policy C 1.2 states that the "LOS standard is to be achieved through the development and adoption of a Traffic Impact Fee (TIF) as part of a Capital Improvement and Financing Plan (CIFP)." Policies C 1.3, C 1.4, C 1.8, and C 1.11 also relate only to impact fees. But, as the FEIR points out, impact fees cannot be used to correct existing problems. FEIR, p. 3-217.

- Policy C1.12 relates only to certain roadways in the AWCP, not County-wide.

- Policies C 1.5 (coordinate planning), C 1.6 (encourage TAMC to find funds), C 1.7 (seek funding from TAMC and "other available resources"), C 1.9 (use "all available public and private sources" of funding), C 1.10 (coordinate with TAMC to continue efforts to improve traffic congestion) might conceivably be relevant to correcting existing service level degradation, but these policies are precisely the kind of empty gestures that the court held in *Concerned Citizens of Calaveras County, supra,* 166 Cal.App.3d at 102-103 to be insufficient to achieve statutorily mandated correlation of circulation and land use elements.

If the County intends that existing service deficiencies will be addressed through the CIFP process outlined in Policy PS 1.1 using a mechanism *other than* impact fees, then the General Plan and EIR are entirely silent about the necessary funding sources, and the public has not been adequately informed about the County's plans in this regard. The only reference to funding sources in Policy PS 1.1 is the acknowledgement that there *are* no sources identified in paragraph PS 1.1(d)(4), which calls for the County to eventually "identify the funding sources and mechanisms for the CIFP." In light of the County's inability to obtain sales tax funding for clearly required improvements and the decreasing likelihood of State and Federal funding, there is no evidence that the County has any ability to raise the necessary funds.

As LandWatch pointed out in DEIR comments, Policies PS1.1 through 1.6 require that no new development be allowed unless APFS requirements are met. *See e.g.*, PS 1-3. Policy PS 1.1 states that APFS requirements shall "ensure that APFS needed to support new development are available" concurrent with the impacts of development and shall "seek to achieve acceptable level of service (LOS) standards through improvements funded by fair share impact fees and planned capital improvements (CIFP)." Thus, it appears that a CIFP must be in place that ensures correction of *existing* LOS deficiencies before any new development can be permitted in the CIFP's benefit area. (That the CIFP is supposed to ensure adequate service levels is also evident from PS 1.1(c), which states that the County is to "[s]eek to achieve acceptable level of service (LOS) standards through improvements funded by fair share impact fees and planned capital improvements (CIFP).") If this is the case, then the General Plan should make it clear that no development can proceed until a CIFP has been prepared that will address existing LOS deficiencies. However, the FEIR specifically states that the absence of a CIFP will *not* impede new development:

> "The commenter contends that the CIFP process will constitute a de facto development moratorium because of the administrative burden of preparing numerous CIFPs within 18 months. As discussed above only the Countywide Traffic CIFP is required to be prepared within 18 months. Development may

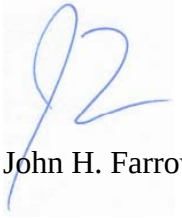
> proceed subject to all of the other General Plan policies and adopted mitigation measures. Note also that pursuant to Policy C-1.8, "until the adoption of a County Traffic Impact Fee, the county shall impose an ad hoc fee on its applicants based upon a fair share traffic impact fee study".
>
> "Commenter states that existing LOS deficiencies must be corrected. Existing LOS deficiencies cannot be corrected based upon new development only; other funding sources would be necessary. Development may proceed subject to all of the other General Plan policies and adopted mitigation measures." FEIR, p. 3-217.

In short, Policies PS 1.1 through PS 1.6 call for adequate public services, but the only funding means that these policies identify are impact fees, which cannot be used to correct existing deficiencies in order to reach the level of service goal. Thus, Policies PS 1.1 through 1.6 and C 1.1 through 1.15 fail to clarify how or when existing service deficiencies will be addressed and how funding for the necessary improvements will be obtained.

In sum, there are no policies in the 2007 General Plan that would ensure adequate attention to existing service deficiencies. While the County does not have to adopt a LOS D goal, if it does so, it must adopt policies that will achieve it. *Murrieta Valley Unified School Dist. v. County of Riverside* (1991) 228 Cal.App.3d 1212, 1236-1238 (Government Code Section 65300.5 requirement for internal consistency violated when general plan lacks implementation measure that would actually ensure coordination of school facility provision with development).

Yours sincerely,

M. R. WOLFE & ASSOCIATES, P.C.



John H. Farrow

JHF: ms

Exhibit 1

Watershed Systems
Hydrology - Geology - Soil Science

Robert Curry, Ph.D., P.G.
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May 17, 2010

John H. Farrow
M. R. Wolfe and Associates
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San Francisco, California 94108

Dear Mr. Farrow,

Attached is my review of the 2007 Monterey County General Plan Update focusing on water quality issues surrounding agricultural land uses and conversions of uncultivated lands to agricultural uses. It has been a pleasure to provide this review for you.

Respectfully Submitted,

Robert R. Curry
Registered Professional Geologist
and Hydrologist

Review of the 2007 Monterey County General Plan Update

Robert R. Curry May 17, 2010

You asked me to review the 2007 Monterey County General Plan Update and its Draft EIR (DEIR) and Final EIR (FEIR) with reference to water quality impacts, especially those impacts associated with agricultural activities and conversion of previously uncultivated land to agricultural uses. I have reviewed this material and other materials cited herein and offer my opinion as to the validity of the EIR's conclusions regarding water quality impacts from activities and development permitted under the 2007 General Plan. I also address the efficacy of proposed policies and mitigation measures and suggest substantive revisions to them that would provide a better foundation for the EIR's conclusions and would better address the 2007 General Plan objectives.

I am an emeritus full professor at the University of California Santa Cruz and a registered California geologist. After retirement from UCSC I helped found the Watershed Institute at California State University Monterey Bay and taught there for ten years. My fields of specialization are fluvial geomorphology (the functions of rivers), hydrology and soil science. I am a certified erosion control specialist. I have served in many federal and state public advisory positions. A brief resume is attached.

The 2007 Monterey General Plan EIR finds water quality impacts from agriculture (Impact WR-3) to be less than significant through 2030 and through the 2092 buildout (DEIR, pp. 4.3-107 to 4.3-113). The DEIR also finds the 2007 General Plan's contribution to surface water quality impacts will not be cumulatively considerable (DEIR, p. 6-10)). Based on the EIR's criteria for significant impacts, these conclusions amount to the claim that permitted development and activities will not cause or considerably contribute to violations of water quality standards or substantial degradation of water quality. DEIR, p. 4.3-89.

The DEIR also finds erosion impacts (Impact GEO-5) to be less than significant. DEIR, pp. 4.3-37 to 4.4-43. This amounts to a claim that there will be no substantial soil erosion or loss of topsoil. DEIR, p. 4.4-25.

These findings are based on a qualitative assessment of existing conditions and the assumed efficacy of existing regulations and proposed policies. However, this qualitative assessment fails to support the EIR's conclusions.

First, the assessment fails to acknowledge the existing regulatory failure to meet water quality standards. In particular, the assessment fails to acknowledge that there is already a substantial degradation of water quality and that there are

already numerous violations of water quality standards, due largely to the cumulative effects of agricultural activities.

Second, the assessment fails to describe adequately the future activities permitted under the 2007 General Plan that will contribute to water quality degradation. Third, the assessment relies on the existing regulations and some new policies to control future impacts, even though these regulations have proven ineffective and the new policies lack standards or enforceable mandates.

The evidence in the EIR and elsewhere actually demonstrates that development consistent with GPU5 will cause significant impacts and that it will make a considerable contribution to a cumulatively significant impact.

A. Existing conditions and regulatory efficacy are not adequately described

The EIR does not provide any estimates of the contributions of various existing land uses to sediment supply, nor does it evaluate the effects of reduced flushing flows in the Salinas River itself on the transport of those sediments. There is no meaningful analysis of the impacts of present development and thus no ability to evaluate how future development will or will not change these conditions.

Exhibit 4.5.5 does not adequately characterize existing conditions

For example, Exhibit 4.4-5 is presented as basis for the conclusions of the FEIR that there will be no significant impact from new development or from cumulative effects of existing development when added to new development. The FEIR at p. 2-178 indicates that Exhibit 4.4-5 provides a "gross overview of soil loss potential". This generalized map is not sufficient because it is not at an adequate scale and has not been related to or associated with information on likely agricultural conversions. More current and more detailed information is available.

There is a basic and fundamental misapplication of this exhibit or its background data to the GPU5 assessment of erosion and sedimentation throughout the EIR. The soil erosion potential map compiled by consulting geologist Lewis Rosenberg is cited repeatedly as the basis for i) estimates of areas of potential agricultural development on slopes over 15%, ii) estimates of potential for erosion on agricultural lands presently developed and yet to be developed, iii) and assurances that compliance with Regional Water Quality Control Board non-degradation standards will be met by 2030 or buildout (DEIR, pp. 4.4-15, 4.4-38; FEIR, pp. 2-38, 2-178). This is not what that exhibit demonstrates or was intended to demonstrate.

The Rosenberg map is titled Soil Erosion Hazards and includes 4 classes of soil hazard: High, Medium, Low, and Variable.[1] Rosenberg is a well qualified professional geologist but the interpretations and conclusions attributed to either this map or perhaps to the un-cited source report go well beyond the intent of his professional work. The 2007 General Plan and earlier versions of the Monterey County General Plan often cite the original Monterey County Soil Survey based on USDA, Soil Conservation Service data compiled primarily between 1965 and 1971. This older survey has been thoroughly updated and revised and is now available through two on-line GIS based databases.[2]

For prime farmland soils and some others, slope classes are included in the soil name and description. Slope classes C, D, E and F are, respectively, 5-9% slopes, 9-15%, 15-30% and 30-50%. The generalized map presented with the General Plan Update pre-dated the development of the current on-line soil maps and may have been based on the older 1971 County soil survey. It makes no sense not to have used the most current soil mapping data.

The EIR does not acknowledge that sedimentation is already a significant impact and that existing regulations have not prevented this impact

We know that many watercourses in the County are already deleteriously impacted by sediment at present, based on the Regional Water Quality Control Board's current 303(d) listings (FEIR, pp. 4-72 to 4-75, 3-179). We also know from the County's own Salinas River Channel Maintenance Program (CMP)[3] that in-channel sand bars and sedimentation are causing encroachment and damage to Salinas River landowners and communities.

We know that regulation of flows by dams contributes to problems in the lower and middle reaches of the Salinas River by reducing flushing flow event magnitudes. *"Prior to the construction of the dams, in particular the Nacimiento and San Antonio Dams, seasonal high flows scoured the channel preventing the accumulation of sediments and excessive riparian growth within the active channel (encroachment)." (Entrix, Revised Salinas River Management Plan, §4.1.1.2*). But we also readily observe that the excess sediments must enter the Salinas river downstream from the dams and that un-dammed ephemeral streams like Carneros, El Toro and Chualar creeks have become blocked by sediment accumulations in both agricultural and residential settings. Thus, the

[1] Although I cannot find the Rosenberg source cited in any of the 2007 Monterey County General Plan EIR references, nor can I find the consulting reports by Jones and Stokes or Michael Brandman Associates from which it was apparently derived in the 2004 Monterey County General Plan Update DEIR, I believe it was a summary map in the April 2001 report to Monterey County titled: *Geologic resources and constraints Monterey County California: technical report for the Monterey County 21st century general plan update program.*

[2] http://soilstogo.uckac.edu/ AND http://websoilsurvey.nrcs.usda.gov/app/

[3] Entrix, 2009, Salinas River Channel Maintenance Program Biological Assessment, Revised. Rept to Monterey County Water Resources Agency

excess sediment problems would be worse were it not for the upstream reservoirs that trap some sediments. Of course, sediment is an indicator of erosion even if some sediment is trapped by dams. In the historic past, before the main Salinas channel was dammed and constrained by levees, floods deposited high sediment loads on the flood plains and could scour a low-flow channel.[4]

The Draft EIR does not acknowledge that the existing County water quality and the RWQCB regulations are not working. A significant indicator that regulations are ineffective to prevent significant impacts is the CWA section 303(d) listings of impaired water bodies, which includes numerous stream segments impaired by sediment, turbidity, and other pollutants from agricultural operations (FEIR, pp. 4-72 to 4-76).

As the DEIR itself states, 303d water bodies are identified as those that do not meet water quality standards (DEIR, p. 4.3-53 to 54). Since one of the EIR's criteria for significant impacts is a failure to meet water quality standards, it is difficult to understand how the EIR can claim that existing regulations prevent significant impacts.

While the FEIR cites the most recent 303(d) listings that indicate a substantial increase in the number of impaired segments, it attempts to dismiss the significance of these new listings by suggesting that they may be due to increased assessment efforts (FEIR, 2-179). The recent additions to the 303(d) listings may indeed include additional listings that were simply overlooked earlier. However, the significant point is that only a single previously listed sediment-impaired watercourse was de-listed, and that de-listing was not based on improved conditions, but on the discovery that there had been a lack of data to support the original listing. The fundamental point here is that the extent of the 303(d) list demonstrates that existing regulations have not worked.

Existing regulations have failed to address cumulative sedimentation in part because the agency with the most focused concern over water quality, the Regional Water Quality Control Board, cannot readily control the many non-point sources of sediment and other pollutants because it lacks authority to control land use. Indeed, the RWQCB comments on the EIR state that "Monterey County's sweeping authority over land use practices and water supply is the primary controlling factor in mitigating potential water quality and quantity impacts . . ." (FEIR, p. 7-71). The RWQCB points out that the County lacks an essential "long term comprehensive watershed management strategy" with "clearly identified performance goals and metrics. . ." and that the 2007 General Plan does not remedy this (FEIR, pp. 7-58, 7-71). For example, the County has not identified the measures that it will take to address TMDLs (FEIR, p. 7-71). The RWQCB TMDL programs are reactive and address only the waterbodies that have already become degraded. When a waterbody is finally identified as

[4] Central Coast Regional Water Quality Control Board, 2003, Salinas River Sediment TMDL.

degraded, a process that the FEIR acknowledges does not occur timely, typical TMDL implementation timelines are at least 13 years. Many of the TMDLs for impaired waterbodies in Monterey County are not due until 2021.

The EIR repeatedly cites the RWQCB's conditional waiver for agriculture as evidence that existing regulations can address sedimentation and other pollutants (DEIR 4.3-58 to 60; FEIR, p. 2-172 to 174). This waiver applies only to irrigation return water where sediment meets turbidity objectives and discharge is not toxic.[5] Its inefficacy is apparent from the number of 303(d) listings for turbidity. Furthermore, this waiver applies only to irrigation return flows, and does not control storm-water caused erosion and sedimentation, which are frequently more substantial sources of erosion and sedimentation than irrigation run-off.

Indeed, the FEIR's discussion states that the RWQCB admits that the conditional waiver needs to be revised, that it has not yet been revised, and that RWQCB staff conclude that "ongoing monitoring . . . continues to show significant amounts of contaminants that are the result of agricultural operations" (FEIR, p. 2-173). In short, the RWQCB admits that its agricultural waiver program does not prevent agricultural contamination. In the face of this admission, the FEIR simply concludes that "in the future, a revised and improved conditional waiver program will be enacted by the Central Coast RWQCB to further reduce the impacts of agricultural operations" (FEIR, p. 2-173).

The EIR also identifies watershed management plans as evidence that existing regulations and programs control sedimentation (DEIR, pp. 4.3-61 to 62; FEIR, 2-173). However, the FEIR admits that the Monterey County IRWM plan is only in the early stages of development (FEIR, p. 2-173). The RWQCB comments on the DEIR are clear that the County has not linked together its goals and policies into a long-term comprehensive watershed management strategy (FEIR, p. 7-58).

In sum, the existing regulatory environment does not sufficiently control erosion and sedimentation to meet water quality standards, and the existing environment is characterized by a failure to meet relevant standards. It is not reasonable to conclude that these regulations serve as an adequate foundation for future efforts.

B. **Future agricultural conversions will add substantially to erosive potential**

It is clear that substantial new conversions of previously uncultivated agricultural land will be permitted by the 2007 General Plan. These new conversions will lead to increased erosion because they are extensive and likely to be situated on

[5] RWQCB, Central Coast Region, Water Quality Control Plan, Appendix A-23, available at http://www.waterboards.ca.gov/plans_policies/

relatively steeper slopes and used disproportionately for viticulture and strawberries, both particularly erosive land uses as currently practiced on hillslopes.

Substantial agricultural conversions in more erosive non-prime lands

The EIR projects substantial activity developing new agricultural land and much of that land will be used for viticulture on sloped and marginal soils. If we accept the EIR's own projection that future agricultural land conversion will proceed at the pace of 466 acres per year, despite the more recent trend showing a much higher rate of new conversions, then 10,253 acres of previously uncultivated land will be converted by 2030 (FEIR, p. 2-36). And at this rate, 39,148 acres will be converted by the projected GPU5 buildout year, 2092 (FEIR, p. 4-129).

The FEIR concludes that the new conversions will occur primarily in the Salinas Valley. There were 196,357 acres of agricultural land in 1995 (MRWRA, 2001, SVWP EIR, section 7.2.2). Thus, the EIR implicitly projects a 5% increase in agricultural lands by 2030 and a 20% increase through buildout. The FEIR concludes that as much as 7% of the Salinas Valley uplands, corresponding to 5 miles of valley edge along 80 miles of valley, may be disturbed by new conversions through 2030 (FEIR, pp. 2-41 to 2-42).

Much of this land will be used for vineyards. The FEIR projects that there could be 5,773 acres of new vineyards by 2030 (FEIR, p. 2-39). Data provided by the Monterey County Vintners and Growers Association official website and cited in LandWatch's DEIR comments indicates that viticulture expansion in the County by 2007 (42,764 acres) had already substantially exceeded the County's forecasts for 2030 (38,104 acres) (FEIR, p. 7-628). It is clear that viticulture is a driving force behind the expansion of agricultural land in the County.

The FEIR claims that major grape producers would more likely convert flat and gently sloping land from row crops to vineyard than convert uncultivated slopes to vineyards (FEIR, p. 2-39). This claim is not consistent with the FEIR's own logic or with experience.

We can see that, for example in Carmel Valley, vineyards have been developed on non-prime soil units. Many characteristics of premium wine grape production are enhanced by development of non-prime agricultural land sites. Non-prime soils are on steeper slopes or are excessively well drained. As the FEIR acknowledges, "the steeper the slope, the poorer the soil" (FEIR, p. 2-237).

The criterion used as a basis for the assumptions made in the FEIR that producers will convert flat and gently-sloping lands (FEIR 2-39) make sense for conventional row crop and some orchard agriculture but not for wine grapes. It is reasonable to expect that growers will apply for development permits on steeper rocky sites where long-term water availability would limit more conventional crops. Dismissing concerns about soil erosion based on the assumptions

revealed in the very small-scale Exhibit 4.4-5, or even the more detailed GIS data that may exist in the 2001 Rosenberg consulting report, cannot be justified in 2010. Better data are available. The "*County important farmland*" that is referenced as a basis for the 2007 General Plan EIR estimates of potential future development on slopes is not appropriate for hillslope vineyards. Napa County illustrates this point where conversions to vineyards are now focused on steeper hillsides. Napa County's vineyard acreage increased from 32,715 acres in 1990 to 45,136 in 2006, and virtually all of it was on newly converted hillslopes.[6] Napa County has had to impose a "Hillside Ordinance" (Zoning Ordinance 18.108.020), which states that an erosion control plan is required prior to grading or removing vegetation on slopes over 5 percent. If a project involves slopes greater than 30 percent a use permit is required before development and if a slope is 50 percent or greater a Napa County land owner must apply for a variance. Despite County Planning concerns and regulation, the Napa River, like the Salinas, is seriously impacted by cumulative sedimentation that resists Regional Board TMDL enforcement. Legal challenges to Napa County regulations are many.

Indeed, it makes little sense to claim that viticulture will primarily occur through re-cropping existing farmland since the FEIR acknowledges that there will be a continuation of the trend in converting marginal land at the edges of the Valley. If "most of the areas of better soils (Class I, II and III) in Monterey County are already under cultivation" (FEIR, p. 2-37), the land available for the new cultivation predicted by the EIR must be the marginal and sloped lands at the edges of the Valley.

New cultivation sites lead to more erosion

When chaparral and some oak-woodland soils are initially cleared and converted to vineyards, a common practice is to deep-rip the sites to remove larger stones. While this makes little sense from a purely soil management perspective, many developers will argue that small vineyard tractors and soil moisture holding capacity not favored by excessively stony soils. Initial cultivation and/or clearing releases a pulse of nutrients that cannot be retained in soils where organic matter is being oxidized and lost through tilling and/or clearing. If unprotected with cover crops and comprehensive erosion control plans, soil particle erosion increases just as it does after wildfire.

In sum, the EIR projects a substantial expansion in agricultural acreage, much of which will be used for viticulture, and most of which will occur on marginal and sloped lands. This will lead to a substantial increase in soil erosion and sedimentation unless effective measures are taken to prevent it.

[6] California Agriculture, Jan-Mar 2008, p. 11

C. Significance conclusions are unfounded

The DEIR finds sedimentation and erosion impacts to be less than significant based on a qualitative analysis that consists of a recitation of existing regulations and proposed policies and mitigation measures (DEIR, pp. 4.3-107 to 113, 4.3-37 to 4.4-43. The DEIR does not provide any modeling or quantitative analysis and does not even qualitatively review different regions, activities, and conditions to support its conclusions that impacts will be less than significant. The very general and qualitative nature of the EIR's assessment of future agricultural impacts does not support its conclusions that sediment yield and water quality impacts will not be significant.

For example, the DEIR's analysis of cumulative sedimentation impacts amounts to four sentences that assert that 1) the RWQCB's agricultural waiver program is preventing sediment-laced runoff from agricultural lands, 2) the County has existing grading, slope development, and erosion control ordinances, 3) the 2007 General Plan will add additional requirements based on 5 enumerated policies (OS 3.5 and 3.6 requiring slope development regulations, S 3.8 requiring education/outreach on erosion and sedimentation control, OS 3.9 requiring a future program to address cumulative impacts of conversion of hillside rangeland, and OS 5.7 requiring compliance with General Plan policies and county and state regulation for timber harvesting) (DEIR, p. 6-10).

The DEIR does not pose or answer the critical threshold question for cumulative impact analysis, which is whether there is or will be a significant cumulative impact from past, present, and foreseeable future activity. As discussed above, the existing regulations do not prevent water quality violations and the EIR's assertion that the RWQCB's agricultural waiver program is preventing sediment-laced runoff from agricultural lands is inconsistent with the listing of 303(d) impaired waters. It is also inconsistent with the RWQCB's own assessment. The RWQCB states that there are and will be significant cumulative impacts and that its own regulations are not ensuring that water quality standards will be met. "Existing land use conditions and water supply demand has resulted not only in well documented surface water quality impacts, but in surface water quantity related impacts" due to contaminant loading, loss of riparian buffers, overdrafting, and loss of recharge capacity (FEIR, pp. 7-70 to 71).

While the DEIR's cumulative impact assessment for surface water quality (CUM-2) mentions the 303(d) listings, it does not acknowledge that there is in fact a cumulatively significant impact from erosion and sedimentation (DEIR, 6-10). Such an acknowledgement is the first step in CEQA's two-step procedure for cumulative impact assessment, under which the County should first have determined whether there is, or will be a significant cumulative impact, and then determined whether future permitted activities under the 2007 General Plan would make a considerable contribution to this impact. While the FEIR does

eventually admit that “erosion and sedimentation is a significant cumulative impact on those water bodies that are identified as ‘impaired’ for sediment under the TMDL program” (FEIR, p. 3-179), this acknowledgement is not substantively incorporated in the DEIR’s cursory assessment of cumulative conditions (DEIR, p. 6-10).

However, given the FEIR’s acknowledgement that there is a significant cumulative impact, the relevant question becomes whether the activities permitted by the 2007 General Plan will make a considerable contribution to this cumulatively significant impact. Absent a compelling substantive showing that future policies will reverse the significant sedimentation problems under the existing regulatory regime, there is no basis for concluding that activities permitted in the future, including a substantial expansion of agricultural land on marginal and sloped land, will not make a considerable contribution to this impact.

The FEIR continues to claim that “extensive regulations and proposed policies” will ensure that future development will not result in cumulatively considerable contributions to cumulative sediment impacts” (FEIR, 3-179). As discussed below, because the proposed policies lack substance, they cannot support such a conclusion.

D. Proposed Policies must be revised

The proposed General Plan policies listed in the EIR’s analyses call for future programs and ordinances to control erosion and sedimentation, but they are not specified in useful detail, contain no standards, identify no examples of adequate measures, propose no resources for implementation, and/or cannot be enforced. If the County is going to postpone the watershed-level analysis and mitigation of cumulative erosion and sedimentation impacts, its significance conclusions must at minimum be based on adequately specified standards for future permitting and mitigation programs. Set forth below is a discussion of the shortcomings of the proposed 2007 General Plan policies together with some suggested revisions that would better effectuate its water quality and soil erosion goals.

OS 3.5 permitting slope conversions must be revised to include permitting standards

Policy OS 3.5 calls for a discretionary permit for agricultural conversions on sloped lands, but the policy fails to provide substantive standards to guide that review:

> “Conversion for agricultural purposes of previously uncultivated lands containing slopes exceeding fifteen percent (15%) but not exceeding twenty five percent (25%) shall require a discretionary permit. Conversion of such lands containing slopes exceeding ten percent (10%) but not

exceeding fifteen percent (15%) shall require a discretionary permit where the lands to be converted contain highly erodible soils. Conversion of previously uncultivated lands shall be prohibited where the slope exceeds twenty five percent (25%) except as noted below; however, such conversion may occur pursuant to a discretionary permit where the area(s) containing slopes exceeding twenty five percent (25%) meets all of the following criteria:
a) does not exceed ten percent (10%) of the total area to be converted;
b) does not contain a slope in excess of fifty percent (50%);
c) is designated for Farmland, Permanent Grazing, or Rural Grazing land use;
d) is planted to a permanent crop such as trees or vines, and,
e) is situated in the interior of the parcel(s) in which the permit is sought.
Approval of discretionary permits for these purposes shall follow the submission of an adequate management plan. Such plans should address appropriate measures to ensure the long term viability of agriculture on that parcel, and include an analysis of soils, erosion potential and control, water demand and availability, proposed methods of water conservation and water quality protection, and protection of important vegetation and wildlife habitats.
For lands designated Rural Density Residential and Low Density Residential (LDR) there shall be no cultivation of any lands exceeding 25%." (2007 General Plan).

There are no standards in OS 3.5, and standards are needed. Only by specifying some standards can the policy be used to support the EIR's significance conclusions.

An "adequate management plan" under OS 3.5 must include an erosion control plan that calculates pre- and post-conversion sediment yield to insure that impaired water bodies and streams listed on the 303(d) list are not impacted and to insure against cumulative watershed effects (CWE's) in all County watercourses.[7] OS 3.5 should be revised to include standards requiring 1) no net increase in sediment yield, 2) no net increase in peak or total storm runoff, 3) no change in percent vegetative cover, 4) development of, and compliance with, a manual for developing the adequate management plans required for issuance of discretionary permits, 5) establishment of methods for determining slope steepness.

The actual measurement of slope steepness is not a trivial matter. The County appears to intend that this be done by an on-the-ground survey since it cannot be done from the existing soil surveys or County databases where the 10, 15, 25 and 50 percent slope classes are not differentiated. It can be done in a very general fashion from a topographic map, but the slope length over which the

[7] Cumulative Watershed Effects are the sum total of upland land use changes that alter runoff, sediment yield, and runoff regime in a watercourse.

steepness is averaged must be carefully prescribed and limited if using a GIS-based Universal Soil Loss Equation approach[8]. In fact, slope length is the most difficult variable to factor into calculation of soil erosion potential.[9] One solution is to try to estimate changes in runoff using TR-55 or similar "runoff curve" methodology[10] and to then calculate changes in sediment yield by regressing measured suspended sediment concentrations against predicted streamflow in a receiving water. Of course, those suspended sediment concentration data generally do not yet exist in Monterey County.

The bottom line is that the methods for developing the information necessary to evaluate the appropriate conditions for discretionary permits are complex and require technical knowledge. Such assessments of potentials for changes in sediment yield are beyond the capabilities of all but the larger agricultural land owners and may call for professional competence and data not currently possessed by the County Planning Department personnel who might be charged with issuing the discretionary permits. Thus, the County would have to develop a manual of standards to guide soil erosion specialists and engineers so that application materials for these discretionary permits could be validated.

It is not clear that the manual called for by Policy S 3.7 is intended to address erosion from agricultural activities because it references "development," a term that is distinguished from agriculture in Policy OS 3.5. And, as discussed below, Policy S 3.7 does not contain standards for the manual that is to be developed.

Napa County has been struggling with this for almost a decade. Costs to applicants and the County Planning Department are substantial. The lead times for developing the necessary local database by USDA Natural Resource Conservation Service specialists for the County would be on the order of 5 years at minimum.

Furthermore, Policy OS 3.9 calls for developing "a Program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland to cultivated croplands." Policy OS 3.9 does not require that this program be developed for a period of five years after adoption of the General Plan. Pending development of the program, the only vehicle for managing cumulative sedimentation effects from agricultural conversions would be the CEQA review and mitigation at the time of the issuance of OS 3.5 discretionary permits. It is unlikely that an individual applicant would be willing to underwrite the necessary

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[8] Wischmeier, W.H. and Smith, D.D. (1978) Predicting rainfall erosion losses--A guide to conservation planning: Agricultural Handbook no. 537, Sci. and Educ. Admin., U.S. Dept. Agr., Washington, D.C.

[9] For example: Kinnell, P. 2001, Slope length factor for applying the USLE-M to erosion in grid cells. Soil and Tillage Research V 58, No 1-2

[10] http://onlinemanuals.txdot.gov/txdotmanuals/hyd/nrcs_runoff_curve_number_methods.htm

cumulative analysis, which would essentially require individual projects to develop much of the analysis and mitigation program called for by Policy OS 3.9.

Given the lack of a comprehensive discretionary permitting system for OS 3.5 and the lack of a cumulative impact mitigation program under OS 3.9, *there is no basis for relaxing the County's current ban on any conversion of land that is sloped more than 25%.* Despite the fact that such conversions are not allowed under the existing regulations, the County suffers significant cumulative sedimentation impacts. It makes no sense to further relax agricultural conversion regulations unless and until the County has developed necessary permitting and mitigation programs. Indeed, because it is unlikely that conversion of land sloped more than 25% could meet appropriate requirements for an adequate management plan, it would be simpler to revise Policy OS 3.5 to bar any conversions of land sloped more than 25%.

However, if the County wants to retain the possibility that some lands sloped over 25% may be converted in the future, then it should at minimum bar those conversions until the County has adopted a discretionary permitting system under OS 3.5 and adopted the cumulative impact mitigation program under OS 3.9.

In view of these considerations, Policy OS 3.5 as it applies to agricultural conversions should, at minimum, be revised as follows: (suggested additions underlined)

> Conversion for agricultural purposes of previously uncultivated lands containing slopes exceeding fifteen percent (15%) but not exceeding twenty five percent (25%) shall require a discretionary permit. Conversion of such lands containing slopes exceeding ten percent (10%) but not exceeding fifteen percent (15%) shall require a discretionary permit where the lands to be converted contain highly erodible soils. Conversion of previously uncultivated lands shall be prohibited where the slope exceeds twenty five percent (25%) except as noted below; however, such conversion may occur <u>only after the County has adopted the program to address cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands pursuant to Policy OS-3.9, only</u> pursuant to a discretionary permit<u>, and only</u> where the area(s) containing slopes exceeding twenty five percent (25%) meets all of the following criteria:
> a) does not exceed ten percent (10%) of the total area to be converted;
> b) does not contain a slope in excess of fifty percent (50%);
> c) is designated for Farmland, Permanent Grazing, or Rural Grazing land use;
> d) is planted to a permanent crop such as trees or vines, and,
> e) is situated in the interior of the parcel(s) in which the permit is sought.

Approval of discretionary permits for these purposes may follow the submission of an adequate management plan. Such plans shall address appropriate measures to ensure the long term viability of agriculture on that parcel, and include an analysis of soils, erosion potential and control, water demand and availability, proposed methods of water conservation and water quality protection, and protection of important vegetation and wildlife habitats.
Adequate management plans shall require that the agricultural conversion results in no net increase in sediment yield, no net increase in storm runoff, and no change in the percent of vegetative cover. Adequate management plans may be based on compliance with a manual for developing such plans that shall be adopted by action of the Board of Supervisors, which manual shall also establish methods for determining slope steepness. Pending completion of that manual, adequate management plans shall require erosion control measures recommended by a certified geologist, engineering geologist, soil erosion civil engineer or U.S.D. A Natural Resource Conservation Service specialist, to be selected by Monterey County but paid for by the applicant.
For lands designated Rural Density Residential and Low Density Residential (LDR) there shall be no cultivation of any lands exceeding 25%.

Routine and ongoing agricultural activities must exclude erosive activity

Policy AG 3.3 calls for excluding routine and ongoing agriculture from certain general plan policies, as follows:

"In lands with a Farmlands, Permanent Grazing, or Rural Grazing land use designation, farming and ranching activities that are "Routine and Ongoing Agricultural Activities" should be exempted from the General Plan policies listed below to the extent specified in those policies, except for activities that create significant soil erosion impacts or violate adopted water quality standards. The County shall, after consultation with the Agricultural Commissioner and with appropriate review by the Agricultural Advisory Committee, establish by ordinance a list of "Routine and Ongoing Agricultural Activities" that can, in harmony with General Plan goals and in accordance with state and federal law, be exempted from the listed General Plan policies as described. Activities to be considered for inclusion in the list of "Routine and Ongoing Agricultural Activities" may include, but are not limited to:
a. pasture and rangeland management;
b. conversion of agricultural land to other agricultural uses;
c. preparation of product for market, and delivery of product to market;
d. planting, harvesting, cultivation, tillage, selection, rotation, irrigation, fallowing, and all soil preparation activities;

e. raising of livestock, poultry, fur bearing animals, dairying, or fish;
f. maintenance of sediment basins, stock ponds, irrigation and tail water return systems, stream bank and grade stabilization, water retention and pumping facilities, erosion control and surface drainage activities;
g. maintenance of farm access roads, trails, and parking facilities;
h. fencing, corrals, animal handling facilities;
i. greenhouses, sheds, storage and outbuildings;
j. emergency activity that protects the health and safety of the general public.
"Routine and Ongoing Agricultural Activities" are exempt from the following General Plan policies to the extent specified by those policies: *C-5.3 (Scenic Highway Corridors), C-5.4 (Scenic Highway Corridors), OS-1.9* (views), *OS-1.12* (scenic routes), *OS-5.5* (native vegetation), *OS-6.3* (archaeological), *OS-7.3* (paleontological), *OS-8.3* (burial sites), *OS-10.8* (air quality), *S-2.3* (floodplain). Further modifications may be made in Area Plans as part of this process." (2007 General Plan.)

The policy lists some activities that "may" be exempted, but would allow other activities to be exempted. Because the County has not yet determined which agricultural activities will actually be exempted, the County must clearly identify those erosive activities that will *not* be exempted. These should include any new cultivation of previously uncultivated land for which a permit would be required under Policy OS 3.5. AG 3.3 should be revised as follows (suggested additions underlined):

In lands with a Farmlands, Permanent Grazing, or Rural Grazing land-use designation, farming and ranching activities that are "Routine and Ongoing Agricultural Activities" should be exempted from the General Plan policies listed below to the extent specified in those policies, except for activities that create significant soil erosion impacts or violate adopted water quality standards. <u>Cultivation of previously uncultivated slopes over 15% or of previously uncultivated slopes over 10% on highly erodible soils is not a Routine and Ongoing Agricultural Activity.</u> The County shall, after consultation with the Agricultural Commissioner and with appropriate review by the Agricultural Advisory Committee, establish by ordinance a list of "Routine and Ongoing Agricultural Activities" that can, in harmony with General Plan goals and in accordance with state and federal law, be exempted from the listed General Plan policies as described. Activities to be considered for inclusion in the list of "Routine and Ongoing Agricultural Activities" may include, but are not limited to:
a. pasture and rangeland management;
b. conversion of agricultural land to other agricultural uses;
c. preparation of product for market, and delivery of product to market;
d. planting, harvesting, cultivation, tillage, selection, rotation, irrigation, fallowing, and all soil preparation activities;
e. raising of livestock, poultry, fur bearing animals, dairying, or fish;

f. maintenance of sediment basins, stock ponds, irrigation and tail water return systems, stream bank and grade stabilization, water retention and pumping facilities, erosion control and surface drainage activities;
g. maintenance of farm access roads, trails, and parking facilities;
h. fencing, corrals, animal handling facilities;
i. greenhouses, sheds, storage and outbuildings;
j. emergency activity that protects the health and safety of the general public.
"Routine and Ongoing Agricultural Activities" are exempt from the following General Plan policies to the extent specified by those policies: *C-5.3 (Scenic Highway Corridors), C-5.4 (Scenic Highway Corridors), OS-1.9* (views), *OS-1.12* (scenic routes), *OS-5.5* (native vegetation), *OS-6.3* (archaeological), *OS-7.3* (paleontological), *OS-8.3* (burial sites), *OS-10.8* (air quality), *S-2.3* (floodplain). Further modifications may be made in Area Plans as part of this process.

Policy OS 3.9 must be revised to include standards

Policy OS 3.9 calls for development of a program to mitigate cumulative hydrologic impacts of agricultural conversions of sloped land, but it too lacks essential standards:

> "The County will develop a Program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands. The Program will be designed to avoid or minimize:
> a) off-site soil erosion,
> b) increased runoff-related stream stability impacts, and/or
> c) potential violation of adopted water quality standards.
> The County will convene a committee comprised of county staff, technical experts (including staff of the Natural Resources Conservation Service), and stakeholders to develop the Program, including implementation recommendations. This program shall be adopted within 5 years of adoption of the General Plan." (2007 General Plan).

Note first that consistent with the discussion above, the policy essentially acknowledges that cumulative impacts from hillside agricultural conversions will be significant unless and until a mitigation program is developed.

The revision made in the FEIR to change the term "address" to "avoid or minimize" does not provide any substantive clarity. The term "minimize" is undefined and could be qualified by considerations of practicality and economic feasibility. The possibility that the County will apply such qualifications to the detriment of a rigorous program means that the policy as written cannot support a finding that future development will not make a considerable contribution to significant cumulative impacts.

The policy must be revised to include a comprehensive standard for Cumulative Watershed Effects and to reference water quality standards, as follows, and to reference an interim ban on conversions over 25% under Policy PS 3.5: (suggested additions underlined)

> The County will develop a Program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands. The Program will be designed to avoid water quality standard violations due to Cumulative Watershed Effects *i.e.*, the sum total of upland land use changes that alter runoff, sediment yield, and runoff regime in a watercourse, including:
> a) off-site soil erosion and sediment yield,
> b) increased runoff-related stream stability impacts, and/or
> c) potential violation of adopted water quality standards.
> The County will convene a committee comprised of county staff, technical experts (including staff of the Natural Resources Conservation Service), and stakeholders to develop the Program, including implementation recommendations. This Program shall be adopted within 5 years of adoption of the General Plan. Pending adoption of the Program, no new agricultural conversion on slopes in excess of twenty-five percent (25%) shall be allowed, in accordance with Policy OS-3.5.

Cooperation, encouragement, and voluntary action policies are not enforceable or funded

The EIR cites a number of polices that call for cooperation, encouragement, or voluntary actions in support of its significance conclusions. These include the following:

- AG-5.1 Programs that reduce soil erosion and increase soil productivity shall be supported.

- AG-5.2 Policies and programs to protect and enhance surface water and groundwater resources shall be promoted, but shall not be inconsistent with State and federal regulations.

- OS-3.2 Existing special district, state, and federal soil conservation and restoration programs shall be supported. Voluntary restoration projects initiated by landholders, or stakeholder groups including all affected landowners, shall be encouraged.

- OS-3.7 Voluntary preparation and implementation of a coordinated resources management plan shall be encouraged in watersheds of State designated impaired waterways.

- OS-3.8 The County shall cooperate with appropriate regional, state and federal agencies to provide public education/outreach and technical assistance programs on erosion and sediment control, efficient water use, water conservation and re-use, and groundwater management. This cooperative effort shall be centered through the Monterey County Water Resources Agency.

- PS-2.7 As part of an overall conservation strategy and to improve water quality, Area Plans may include incentive programs that encourage owners to voluntarily take cultivated lands on slopes with highly erosive soils out of production.

These policies do not identify or mandate any programs or provide any standards for such programs. The FEIR identifies the RWQCB agricultural waiver and TMDL programs and activities of the Natural Resources Conservation Service as examples of programs to be encouraged and supported (FEIR, p. 3-180). However, the RWQCB objected to the EIR's failure to identify what the County actually plans to do to implement TMDLs (FEIR, p. 7-71).

These policies also fail to identify any County resources that will be used to support various programs or to create incentives for voluntary action. Given the real likelihood that fiscal constraints will preclude all but mandated actions, it is unreasonable to rely on voluntary private action without incentives and on statements of good intentions as the basis for the EIR's conclusions. The FEIR failed to identify any resources available to implement these policies in response to LandWatch's comments (FEIR, 3-179 to 3-181).

Similar policies in the current 1982 General Plan have not prevented agricultural non-point source pollution or resulted in the attainment of water quality standards. For example, water quality standards are not being met as a result of non-point pollution despite the following 1982 General Plan Policies:

- Policy 3.1.2 The County shall support and encourage existing special district, state, and federal soil conservation and restoration programs within its borders.

- Policy 21.1.4 The County shall encourage the agricultural community to work closely with the Soil Conservation Service and Resource Conservation Districts to reduce the existing and potential erosion on agricultural land.

- Policy 16.4.2 The County should establish an active erosion control education program for the general public and building and agricultural trades in cooperation with the Resource Conservation Districts and the Soil Conservation Service.*

If the County intends to rely on policies calling for cooperation, encouragement, and support as the basis of its conclusion that sedimentation impacts will be less than significant, it must revise those policies to provide for specific actions and resources.

BMP policies lack standards or examples

The EIR cites a number of polices that call for development of best management practices in support of its significance conclusions. These include the following:

- OS-3.1 Best Management Practices (BMPs) to prevent and repair erosion damage shall be established and enforced.

- OS-3.3 Criteria for studies to evaluate and address through appropriate designs and BMPs geological and hydrologic constraints and hazards conditions such as slope and soil instability, moderate and high erosion hazards, and drainage, water quality and stream stability problems created by increased stormwater runoff shall be established for new development and changes in land use designations.

- S-3.2 Best Management Practices to protect groundwater and surface water quality shall be incorporated into all development.

- S-3.7 The Monterey County Water Resources Agency shall prepare a Flood Criteria or Drainage Design Manual that established flood plain management policies, drainage standards and criteria, stormwater detention, and erosion control and stormwater quality protection measures in order to prevent significant impacts from flooding and ensure that development does not increase flooding risk over present conditions. The manual will include, as appropriate, hydrologic and hydraulic analysis procedures, procedures to assess stream geomorphology and stability, potential development impacts on streams and design guidelines for channel design, including biotechnical bank stabilization. Until the Drainage Design Manual is prepared, the County shall continue to apply existing policies and ordinances to manage floodplains and minimize flood risk, erosion control and water quality impacts.

The policies do not provide any standards for, or examples of, BMPs, geologic/hydrologic studies, appropriate designs, or the proposed manual. At minimum, these policies should include a requirement that the application of the BMPs and the goal of the studies, appropriate designs, and manual be to ensure that there be no net increase in sediment yield and no net increase in peak or total storm runoff in order that water quality standards be met.

There is no deadline for implementation or any provision for interim measures. At minimum, each policy should provide a date certain for completion of each task.

Policy OS 3.3 is unclear as to the intended application of the "studies to evaluate and address . . . geological and hydrologic constraints and hazards conditions." It is not clear whether future individual development projects will be required to conduct studies (and if so, which projects) or whether these studies will be conducted by the County to develop BMPs of wider applicability. The policy should be clarified.

Policy S 3.7 defers development of standards for drainage without explanation, and provides for continuation of existing policies in the interim. As discussed, existing ordinances and policies have been ineffective. Furthermore, although S-3.7 calls for interim continuation of 1982 General Plan Polices, these policies will no longer be enforceable if the 2007 General Plan is adopted. Although LandWatch objected to these policies for these reasons in comments on the DEIR, the FEIR did not address the objections (FEIR, pp. 3-179 to 181).

References in Policies OS 3.3, S 3.2, and S 3.7 to "development" should be clarified so that the policies apply to agricultural permitting, including both the discretionary permitting under OS 3.5 and permitting for agricultural activities that are subject to permits, such as grading that adversely affects drainage courses under Chapter 16.08 of the Monterey County Code.

The Monterey County Code already exempts many agricultural activities from its requirements for grading permits and erosion control plans. In Chapter 16.12 covering erosion control, section 16.12.110(a) exempts agricultural grading and routine annual activities to prepare fields for crops from most of the erosion control provisions, including the requirement to prepare and implement an erosion control plan. The sole substantive provision of the Erosion Control Chapter applicable to agriculture is the section 16.12.040, which permits the Director of Building Inspection to impose additional conditions on activities that are "likely to cause accelerated erosion." Such activities are not objectively defined and it is not clear that the Director of Building Inspection is best qualified or charged to evaluate and mitigate agricultural erosion.

In Chapter 16.08 covering grading, section 16.08.04(J) exempts agricultural activities from the requirement to obtain a grading permit unless the grading will "adversely affect any drainage course" or for reservoir construction. Again, there is no objective definition of activities that adversely affect drainage courses.

These exemptions should be revisited in light of the lack of objective standards and the ongoing contribution of agricultural activities to significant erosion and sedimentation impacts. The implementation of Policies OS 3.3, S 3.2, and S 3.7 would provide an appropriate forum for revisiting these exemptions to provide

objective standards for exemptions of agriculture from grading permits and erosion control plans.

Again, similar 1982 General Plan Policies, policies lacking specific standards, have not prevented significant agricultural non-point water quality degradation. For example, the following 1982 General Plan Policies have not prevented significant cumulative sedimentation impacts:

- 3.1.1 Erosion control procedures shall be established and enforced for all private and public construction and grading projects.

- Policy 3.2.3 Lands having a high erosion potential as identified in the Soil Survey shall require adequate erosion control methods for agricultural uses.

- Policy 16.4.1 The County shall adopt and enforce a comprehensive erosion control ordinance.

Thus, Policies OS 3.1 and 3.3 and S 3.2 and 3.7 should be revised as follows (suggested additions underlined):

- OS-3.1 Best Management Practices (BMPs) to prevent and repair erosion damage shall be established and enforced <u>for all activities, including agricultural activities, that are subject to County permits</u>. <u>BMPs shall be designed to ensure compliance with applicable water quality standards. BMP's shall be developed within three years of the adoption of the General Plan.</u>

- OS-3.3 Criteria <u>to avoid or minimize erosion and increased runoff and to avoid potential violation of applicable water quality standards due to increased stormwater runoff shall be established for all activities, including agricultural activities, that are subject to County permits</u> and for changes in land use designations. <u>In developing the criteria, the County shall consider</u> studies to evaluate and address <u>erosion and increased runoff</u> through appropriate designs<u>,</u> BMPs, geological and hydrologic constraints and hazards conditions such as slope and soil instability, moderate and high erosion hazards, and drainage, water quality and stream stability problems created by increased stormwater runoff <u>and erosion</u>. <u>The County shall develop objective criteria for exempting agricultural activities from the requirements of its erosion control and grading ordinances, which shall be designed to avoid potential violations of water quality standards. Criteria shall be developed within three years of the adoption of the General Plan.</u>

- S-3.2 Best Management Practices <u>developed pursuant to Policy OS-3.1</u> to protect groundwater and surface water quality shall be incorporated into

all activities, including agricultural activities, that are subject to County permits.

- S-3.7 The Monterey County Water Resources Agency shall prepare a Flood Criteria or Drainage Design Manual that established flood plain management policies, drainage standards and criteria, stormwater detention, and erosion control and stormwater quality protection measures in order to prevent significant impacts from flooding and ensure that all activities, including agricultural activities, that are subject to County permits do not increase flooding, erosion, and sedimentation risks over present conditions. The manual will include, as appropriate, hydrologic and hydraulic analysis procedures, procedures to assess stream geomorphology and stability, potential impacts from all activities, including agricultural activities, that are subject to County permits on streams, and design guidelines for channel design, including biotechnical bank stabilization. Until the Drainage Design Manual is prepared, the County shall continue to apply existing policies and ordinances to manage floodplains and minimize flood risk, erosion control and water quality impacts. The Flood Criteria or Drainage Design Manual shall be developed within three years of the adoption of the General Plan.

Data collection policies have been ineffective

The EIR cites a number of polices that call for data collection in support of its significance conclusions. These include the following:

- **OS-3.4** Those areas where slopes pose severe constraints for development shall be mapped in the County's GIS. The information shall be updated at least every five (5) years.

- **PS-2.6** A Hydrologic Resources Constraints and Hazards Database shall be developed and maintained in the County Geographic Information System (GIS). The GIS shall be used to identify areas containing hazards and constraints (see *Policy S-1.2*) that could potentially impact the type or level of development allowed in these areas (*Policy OS-3.5*). Maps maintained as part of the GIS include: a. Impaired water bodies on the State Water Resources Control Board 303d list. b. Important Groundwater Recharge Areas c. 100-year Flood Hazards d. Hard rock areas with constrained groundwater e. Areas of septic tank leachfield unsuitability.

- **S-1.2** A Geologic Constraints and Hazards Database shall be developed and maintained in the County Geographic Information System (GIS). The GIS shall be used to identify areas containing hazards and constraints (see *Policy PS-2.6*) that could potentially impact the type or level of development allowed in these areas (*Policy OS-3.5*). Maps maintained as

part of the GIS include: a. Active Regional Faults b. Relative Seismic Shaking Hazards c. Relative Landslide Susceptibility d. Relative Earthquake Induced Liquefaction Susceptibility e. Steep Slope Constraints (see *Policy OS-3.5*) f. Coastal Erosion g. Moderate and High Erosion Hazards h. Highly Erodible Soils.

- **S-3.6** An inventory of areas where there is a high probability of accelerated erosion, sedimentation, and/or chemical pollution shall be maintained as part of the County's GIS mapping database.

The FEIR claims that these policies will inform regulatory decisions to prevent erosion and sedimentation (FEIR, pp. 3-180 to 181), but the existence of similar policies in the 1982 General Plan has not resulted in attainment of water quality standards. The following are policies from the 1982 General Plan:

- Policy 3.2.1 A slope map shall be produced to identify areas in the County where slope poses severe constraints for particular land uses.

- Policy 3.2.3 Lands having a high erosion potential as identified in the Soil Survey shall require adequate erosion control methods for agricultural uses.

- Policy 15.4.2 The County shall have prepared a comprehensive slope stability map, locating relative stability and suitability for development.

- Policy 15.4.5 The County shall continually update seismic and other geologic information to reflect the most current and accurate information available.

Thus, much of the data to be developed through implementation of the 2007 General Plan study and mapping policies should *already have been developed pursuant to existing General Plan policies*, and should be available to inform the land use designations as part of the General Plan update process. For example, it should already be possible to identify areas unsuitable for development or agricultural conversions. Adequate erosion control measures should already be specified for identified areas of high erosion control potential.

In light of the County's apparent failure to develop this information systematically in response to policies in the 1982 General Plan, or, if it was developed, to use the information effectively to prevent the existing sedimentation impacts, it is unreasonable to base a significance conclusion on the expectation that it will do this in the future.

Policies OS-3.4, PS 2.6, S 1.2, and S 3.6 should each be revised to specify that the maps, databases, and inventories shall be developed by a date certain, *e.g.*,

within 3 years of the adoption of the General Plan, and that the County shall allocate necessary resources to enable this.

Drainage policies are unclear and not sufficient

The EIR cites a number of drainage-related polices in support of its significance conclusions. These include the following:

- **S-3.1** Post-development, off-site peak flow drainage from the area being developed shall not be greater than pre-development peak flow drainage. On-site improvements or other methods for storm water detention shall be required to maintain post-development, off-site, peak flows at pre-development levels, where appropriate, as determined by the Monterey County Water Resources Agency.

- **S-3.3** Drainage facilities to mitigate the post-development peak flow impact of new development shall be installed concurrent with new development.

- **S-3.5** Runoff Performance Standards that result in an array of site planning and design techniques to reduce storm flows plus capture and recharge runoff shall be developed and implemented, where appropriate, as determined by the Monterey County Water Resources Agency.

LandWatch objected that it was unclear to which development projects these policies would be applied and asked whether they would apply to agricultural conversions and to activities and projects that do not require discretionary permits (FEIR, pp. 7-801 to 802). In response the FEIR stated that the policies "will *all* be applied to development projects" (FEIR, p. 3-181). This needs to be clarified to state that the policies will be applied to *all development projects and agricultural activities that are subject to a County permit.*

LandWatch pointed out that the performance standard for peak flows in Policy S 3.1 is undercut by the postponement of the development of runoff performance standards in Policy S 3.5. It is unclear whether future runoff standards to be developed under Policy S 3.5 will incorporate the standard in S 3.1. The FEIR did not address this comment.

LandWatch also asked how the use of the qualifying term "appropriate" in S-3.1 and S-3.5 would affect the application of the policies and expressed concern that it would be used to except some activities from runoff performance standards. The FEIR stated that the qualifying term is intended to "provide that these requirements will not apply if the project would not increase pre-development flows" (FEIR, p. 3-181). If that is the only purpose of the qualifying term "appropriate," then the term should be omitted because projects that do not

increase pre-development flows will be compliant with the policies and will not require additional mitigation.

In sum, both Policies S 3.1 and S 3.5 should be rewritten to apply to all development or to specify exactly which projects would be excepted.

The policies do not reflect the need for performance standards *other than peak-flow standards*. While peak flow standards are important to protect downstream channel erosion, it is equally important to insure that the total volume of runoff does not increase, and to thus protect groundwater recharge and low-flow season stream-flow.

These policies should be revised as follows (suggested additions underlined):

- **S-3.1** Post-development, off-site peak flow and total flow drainage from the area being developed shall not be greater than pre-development peak flow and total flow drainage. On-site improvements or other methods for storm water detention shall be required to maintain post-development, off-site, peak flows and total flows at pre-development levels, as determined by the Monterey County Water Resources Agency. This policy shall apply to all activities, including agricultural activities, that are subject to County permits.

- **S-3.3** Drainage facilities to mitigate the post-development peak flow and total flow impact of new development shall be installed concurrent with new development. This policy shall apply to all activities, including agricultural activities, that are subject to County permits.

- **S-3.5** Runoff Performance Standards consistent with Policy S-3.1 that result in an array of site planning and design techniques to reduce storm flows plus capture and recharge runoff shall be developed and implemented, as determined by the Monterey County Water Resources Agency. This policy shall apply to all activities, including agricultural activities, that are subject to County permits.

Steam setback ordinance is not adequate

The EIR acknowledges that additional mitigation beyond the 2007 General Plan policies in the form of a stream setback requirement will be necessary to prevent erosion. Although the DEIR concludes that a stream setback ordinance is necessary to address erosion impact GEO-5 (DEIR, p. 4.4-43), it expressly concludes that it is *not* necessary to address water quality impacts WR-1 and WR-3, which include sedimentation effects (DEIR, pp. 4.3-97 and 4.3.113). Erosion and sedimentation are opposite sides of the same coin because erosion is the source of sedimentation. Thus, the DEIR's inconsistent conclusion that a

stream-setback ordinance is necessary to address erosion but is not necessary to address water quality impacts demonstrates the inadequacy of the EIR's qualitative assessment of the collective effects of the 2007 General Plan policies on water quality.

As revised in the FEIR (FEIR-135), Mitigation Measure BIO 2.1 provides for the future development of a stream setback ordinance as follows:

> "In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors, and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a Stream Setback Ordinance. The ordinance shall establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to inland portions of the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ordinance shall identify appropriate uses within the setback area that would not cause removal of riparian habitat, compromise riparian wildlife corridors, or compromise water quality of the relevant stream. The Stream Setback Ordinance shall apply to all discretionary development, County public projects, and to conversion of previously uncultivated land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The stream setback ordinance shall be adopted within 3 years of adoption of the General Plan." (FEIR, p. 4-135.)

As LandWatch objected, development of this mitigation measure is postponed, but the EIR does not provide any interim standards. An interim setback equal to one and a half times the average channel width as measured for the length of the development area or the width of the riparian community, whichever is greater, is suggested.

The revised policy now states that the ordinance must identify "appropriate uses" within the setback area. No new permanent structures, such as wells, transmission lines, or roads are appropriate in a setback area, with the single exception of bridge abutments. Existing levees and other flood protection works can be grandfathered. Support of natural riparian plan communities in the setback area must be the overriding objective. Thus, this should be the primary

"appropriate use" in order to protect riverbanks and in order to enhance deposition of flood-borne sediments.

The setback ordinance is limited to discretionary development and to conversion of previously uncultivated land on slopes over 15%, or over 10% on highly erodible soils. Since the County has not done any analysis yet to develop the ordinance it is unclear how it has decided in advance that the setback ordinance can be adequately effective if it is not applied to 1) development requiring only ministerial permits 2) "Routine and Ongoing Agriculture," which may not require any permits at all, 3) agricultural conversions on land sloped under 15%. The policy must be applied to all future projects, whether permitted via ministerial or discretionary permits, and whether they be agricultural or non-agricultural.

The policy must be applied to all intermittent and selected sand-bed ephemeral streams, since these are a significant source of sediment. In Monterey County it is the tributary intermittent channels that are the sources of a disproportionate volume of sediments that then enter primary watercourses. Ephemeral sand-bed streams are also easily eroded. A good example is the residential area of Chualar Creek. It is critical that the County develop an accepted method of differentiation between perennial, intermittent, and ephemeral streams. A good working definition is that of the Corps of Engineers[11]. Examples are upper Arroyo Seco for perennial, lower Carmel, El Toro and Tularcitos for intermittent, and middle Chualar for ephemeral.

The policy should be revised as follows (suggested additions underlined):

> In order to preserve riparian habitat, conserve the value of streams and rivers as wildlife corridors, and reduce sediment and other water quality impacts of new development, the county shall develop and adopt a Stream Setback Ordinance. The ordinance shall establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The ordinance shall identify appropriate uses within the setback area that would not cause removal of riparian habitat, compromise riparian wildlife corridors, or compromise water quality of the relevant stream. No new permanent structures other than bridge abutments shall be permitted in the setback area. The Stream Setback Ordinance shall

[11] http://www.lrh.usace.army.mil/_kd/Items/actions.cfm?action=Show&item_id=5923&destination=ShowItem

apply to all activities, including agricultural activities, that are subject to County permits, County public projects, and to conversion of previously uncultivated land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%. The stream setback ordinance shall be adopted within 3 years of adoption of the General Plan. In the interim, a stream setback shall be required equal to one and a half times the average channel width as measured for the length of the development area or the width of the riparian community, whichever is greater.

E. Conclusion

In sum, the EIR's descriptions of the existing physical and regulatory environment are not adequate to support its conclusions. The EIR's conclusions that erosion and sedimentation from activities permitted under the 2007 General Plan will not result in continuing violations of water quality standards are not supported by the demonstrable shortcomings of the existing regulatory environment. And neither the 2007 General Plan policies nor the mitigation proposed in the EIR provide adequate additional measures to support the conclusion that activities permitted under the 2007 General Plan will not cause or considerably contribute to cumulatively significant impacts, i.e., violations of water quality standards, substantial degradation of water quality, or substantial erosion. Revisions to these policies and mitigation measures are necessary.

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Robert Curry is the Principal of Watershed Systems, a consulting rubric that he has operated since 1980. This consultancy focuses on Watershed Science which is seen as the interface between geomorphic and geologic processes, surface and groundwater hydrology, and ecologic processes operating at the watershed scale. Curry is an emeritus professor of earth and environmental sciences in the University of California system, having retired from full-time teaching at the University of California Santa Cruz in 1995. While continuing contract research through the UC System after 1995, he helped found and created a curriculum in Watershed Science in the Watershed Institute and Earth System Science at California State University Monterey Bay, where he has most recently taught Water Resources Law and Policy and other watershed and geology courses.

Education

- PhD – Rates and Forms of Mass Wasting and Climatic History of the Sierra Nevada
  University of California
  Berkeley, 1967
- MSc – Geobotany and plant ecology of the Tenmile Range, Colorado
  University of Colorado, 1961-62
- B.A. – Geology, University of Colorado, 1960

Registrations

- Professional Geologist – California #3295, 1971
- Certified Erosion Control Specialist - 1980

While employed as a university professor at U.C. Santa Barbara, U.C. Berkeley, and University of Montana, Curry served in numerous federal state and regional government and public service roles. These included Research Hydrologist with the U.S. Geological Survey, Science Advisor to the United States Senate Public Works Committee, and advisor to the Office of the US President's Science Advisor, California's Assembly Natural Resources Committee, several National Academy of Sciences and Engineering advisory panels, and the Ford Foundation funded National Coal Policy Project through Georgetown University. International efforts have included a research fellow status with the French National Academy, several Canadian advisory positions, and an ongoing research and public policy project with the Chilean government agricultural advisory organization FIA. In addition to faculty appointments, other academic roles have included chairing the research programs in the California Water Resources Center for over 10 years, serving as Provost of a U.C. Santa Cruz College, serving as Chair of a Santa Cruz academic department, and founding and directing research for the Watershed Institute at Cal-State Monterey. Public service roles have included Director of Research for the Sierra Club National Office, president of the California chapter of the Society for Ecological Restoration, and help drafting California's Forest Practices Act and U.S. Forest Service cumulative hydrologic effects guidelines.

Professor Curry has earned an international reputation through his work on geologic hazard evaluation, having publicly predicted the failure of the Teton Dam, halted construction of a major dam on the Aconcagua River in Chile based on probable

geomorphic and hydrologic effects and seismic hazards, evaluated serious hazards associated with Chinese waterpower development schemes in China and Tibet, and publicly revealed flaws in safety of major projects in Canada (Revelstoke Dam on the Columbia River) and the United States (Richard B. Russell dam on the Savannah River, the Lawrence Livermore proposed BioWeapons Lab; the Diablo Canyon Nuclear Reactor in California, Ramparts Dam and Project Chariot, Alaska). Curry was able to assess the probable causes of the Santa Barbara oil spill of 1969 and predicted the 1989 Exxon Valdez disaster in Prince William Sound through the nation's first federal impact assessment in 1970. Through his US Senate advisory appointment, Curry was instrumental in stopping the proposed Lyons, Kansas nuclear waste repository and he helped write that seemingly insignificant section of the National Environmental Policy Act in 1969 [§102.2(c)] that requires an Environmental Impact Statement for major federal projects.

Dr. Curry has taught at the University of Alaska, the Geobotanisch Institut at Göttingen, College of the Atlantic in Maine and the University of Montana where he was a professor of geology, hydrology and glacial geology for ten years. Upon accepting the position of Provost at the University of California Santa Cruz in 1979, Curry returned to California and began teaching a wider variety of courses in Geomorphology, Soil Science, Wetland Delineation, Climate Change, Water Resources, Energy Resources, and quantitative environmental sciences.

Professor Curry was elected Fellow of the Geological Society of America in 1977, was appointed co-chair of the Georgetown University's Center for Strategic and International Studies' Coal Policy Project in 1976, and was appointed Provost at the University of California Santa Cruz in 1979 and a Packard Foundation Research Fellow at California State University in 1998. He has published over 100 professional watershed science, cumulative impact, climate history, and public policy papers, is a Registered California Geologist (#3258) and belongs to a wide variety of professional organizations in geological, biological, and ecological fields. After retiring from full-time university teaching, Dr. Curry is now consulting to State and local governments, tribal and foreign governments, and private parties, particularly for complex legal cases. Some of these have been reviewed and supported to the Supreme Courts of California and Montana and federal Courts of Appeal.

Between 1992 and 1996 Professor Curry directed and performed reconnaissance and detailed wetland delineations for the California Regional Water Quality Control Board Lahontan Region from the mountains of the Oregon border to the shores of the Colorado River in the Mojave Desert. Full Corps of Engineers three-criteria data sheets were assembled for several hundred sites that were mapped on over 1000 quadrangles, and detailed mapping with University of California students was completed in conjunction with the National Resource Conservation Service on 17,939 acres of the Bridgeport Valley and later with a research team on 18,450 acres from the Mono Basin to Crowley Lake. He continues to teach workshops on wetlands and land use for State and County regulators.

Exhibit 2

GUIDE FOR THE PREPARATION

OF

TRAFFIC IMPACT STUDIES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

December 2002

PREFACE

The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS).

In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time, District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.

The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals.

Even though sound planning and engineering practices were used to adapt the Fresno TIS guide, it is anticipated that changes will occur over time as new technologies and more efficient practices become available. To facilitate these changes, Caltrans encourages all those who use this guide to contact their nearest district office (i.e., IGR/CEQA Coordinator) to coordinate any changes with the development team.

ACKNOWLEDGEMENTS

The District 6 traffic impact study guide provided the impetus and a starting point for developing the statewide guide. Special thanks is given to Marc Birnbaum for recognizing the need for a TIS guide and for his valued experience and vast knowledge of land use planning to significantly enhance the effort to adapt the District 6 guide for statewide use. Randy Treece from District 6 provided many hours of coordination, research and development of the original guide and should be commended for his diligent efforts. Sharri Bender Ehlert of District 6 provided much of the technical expertise in the adaptation of the District 6 guide and her efforts are greatly appreciated.

A special thanks is also given to all those Cities, Counties, Regional Agencies, Congestion Management Agencies, Consultants, and Caltrans Employees who reviewed the guide and provided input during the development of this Guide for the Preparation of Traffic Impact Studies.

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I. INTRODUCTION

Caltrans desires to provide a safe and efficient State transportation system for the citizens of California pursuant to various Sections of the California Streets and Highway Code. This is done in partnership with local and regional agencies through procedures established by the California Environmental Quality Act (CEQA) and other land use planning processes. The intent of this guide is to provide a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The applicability of this guide for local streets and roads (non-State highways) is at the discretion of the effected jurisdiction.

Caltrans reviews federal, State, and local agency development projects[1], and land use change proposals for their potential impact to State highway facilities. The primary objectives of this guide is to provide:

- guidance in determining if and when a traffic impact study (TIS) is needed,
- consistency and uniformity in the identification of traffic impacts generated by local land use proposals,
- consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals,
- lead agency[2] officials with the information necessary to make informed decisions regarding the existing and proposed transportation infrastructure (see Appendix A, Minimum Contents of a TIS)
- TIS requirements early in the planning phase of a project (i.e., initial study, notice of preparation, or earlier) to eliminate potential delays later,
- a quality TIS by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies prior to beginning the TIS, and
- early coordination during the planning phases of a project to reduce the time and cost of preparing a TIS.

II. WHEN A TRAFFIC IMPACT STUDY IS NEEDED

The level of service[3] (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs (see Appendix "C-2") describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3") on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

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[1] "Project" refers to activities directly undertaken by government, financed by government, or requiring a permit or other approval from government as defined in Section 21065 of the Public Resources Code and Section 15378 of the California Code of Regulations.

[2] "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the "California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

[3] "Level of service" as defined in the latest edition of the Highway Capacity Manual, Transportation Research Board, National Research Council.

A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis[4]:
    a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").
    b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
    c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

Note: A traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.

B. Exceptions

Exceptions require consultation between the lead agency, Caltrans, and those preparing the TIS. When a project's traffic impact to a State highway facility can clearly be anticipated without a study and all the parties involved (lead agency, developer, and the Caltrans district office) are able to negotiate appropriate mitigation, a TIS may not be necessary.

C. Updating An Existing Traffic Impact Study

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every two years. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with Caltrans is strongly recommended.

III. SCOPE OF TRAFFIC IMPACT STUDY

Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended before commencing work on the study to establish the appropriate scope. At a minimum, the TIS should include the following:

A. Boundaries of the Traffic Impact Study

All State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway.

[4] A "lesser analysis" may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.

B. Traffic Analysis Scenarios

Caltrans is interested in the effects of general plan updates and amendments as well as the effects of specific project entitlements (i.e., site plans, conditional use permits, sub-divisions, rezoning, etc.) that have the potential to impact a State highway facility. The complexity or magnitude of the impacts of a project will normally dictate the scenarios necessary to analyze the project. Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed in the TIS when appropriate:

1. When only a general plan amendment or update is being sought, the following scenarios are required:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only with Select Zone[5] Analysis - Trip generation and assignment for build-out of general plan.
   c) General Plan Build-out Only - Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
   d) General Plan Build-out Plus Proposed Project - Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.

2. When a general plan amendment is not proposed and a proposed project is seeking specific entitlements (i.e., site plans, conditional use permits, sub-division, rezoning, etc.), the following scenarios must be analyzed in the TIS:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only - Trip generation, distribution, and assignment in the year the project is anticipated to complete construction.
   c) Cumulative Conditions (Existing Conditions Plus Other Approved and Pending Projects Without Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   d) Cumulative Conditions Plus Proposed Project (Existing Conditions Plus Other Approved and Pending Projects Plus Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   e) Cumulative Conditions Plus Proposed Phases (Interim Years) - Trip assignment and peak hour LOS analysis in the years the project phases are anticipated to complete construction.
3. In cases where the circulation element of the general plan is not consistent with the land use element or the general plan is outdated and not representative of current or future forecasted conditions, all scenarios from Sections III. B. 1. and 2. should be utilized with the exception of duplicating of item 2.a.

[5] "Select zone" analysis represents a project only traffic model run, where the project's trips are distributed and assigned along a loaded highway network. This procedure isolates the specific impact on the State highway network.

IV. TRAFFIC DATA

Prior to any fieldwork, consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to reach consensus on the data and assumptions necessary for the study. The following elements are a starting point in that consideration.

A. Trip Generation

The latest edition of the Institute of Transportation Engineers' (ITE) TRIP GENERATION report should be used for trip generation forecasts. Local trip generation rates are also acceptable if appropriate validation is provided to support them.

1. Trip Generation Rates – When the land use has a limited number of studies to support the trip generation rates or when the Coefficient of Determination (R^2) is below 0.75, consultation between the lead agency, Caltrans and those preparing the TIS is recommended.
2. Pass-by Trips[6] – Pass-by trips are only considered for retail oriented development. Reductions greater than 15% requires consultation and acceptance by Caltrans. The justification for exceeding a 15% reduction should be discussed in the TIS.
3. Captured Trips[7] – Captured trip reductions greater than 5% requires consultation and acceptance by Caltrans. The justification for exceeding a 5% reduction should be discussed in the TIS.
4. Transportation Demand Management (TDM) – Consultation between the lead agency and Caltrans is essential before applying trip reduction for TDM strategies.

NOTE: Reasonable reductions to trip generation rates are considered when adjacent State highway volumes are sufficient (at least 5000 ADT) to support reductions for the land use.

B. Traffic Counts

Prior to field traffic counts, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to determine the level of detail (e.g., location, signal timing, travel speeds, turning movements, etc.) required at each traffic count site. All State highway facilities within the boundaries of the TIS should be considered. Common rules for counting vehicular traffic include but are not limited to:

1. Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions.
2. Vehicle counts should be conducted during the appropriate peak hours (see peak hour discussion below).
3. Seasonal and weekend variations in traffic should also be considered where appropriate (i.e., recreational routes, tourist attractions, harvest season, etc.).

C. Peak Hours

To eliminate unnecessary analysis, consultation between the lead agency, Caltrans and those preparing the TIS is recommended during the early planning stages of a project. In general, the TIS should include a morning (a.m.) and an evening (p.m.) peak hour analyses. Other peak hours (e.g., 11:30 a.m. to 1:30 p.m., weekend, holidays, etc.) may also be required to determine the significance of the traffic impacts generated by a project.

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[6] "Pass-by" trips are made as intermediate stops between an origin and a primary trip destination (i.e., home to work, home to shopping, etc.).

[7] "Captured Trips" are trips that do not enter or leave the driveways of a project's boundary within a mixed-use development.

D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis (please note however, the micro-simulation model must be calibrated and validated for reliable results). Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the data necessary for the analysis.

A. Freeway Segments – Highway Capacity Manual (HCM)*, operational analysis
B. Weaving Areas – Caltrans Highway Design Manual (HDM)
C. Ramps and Ramp Junctions – HCM*, operational analysis or Caltrans HDM, Caltrans Ramp Metering Guidelines (most recent edition)
D. Multi-Lane Highways – HCM*, operational analysis
E. Two-lane Highways – HCM*, operational analysis
F. Signalized Intersections[8] – HCM*, Highway Capacity Software**, operational analysis, TRAFFIX™**, Synchro**, see footnote 8
G. Unsignalized Intersections – HCM*, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
H. Transit – HCM*, operational analysis
I. Pedestrians – HCM*
J. Bicycles – HCM*
K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Transportation Research Board, National Research Council, should be used.

****NOTE**: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

[8] The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM.

VI. MITIGATION MEASURES

The TIS should provide the nexus [Nollan v. California Coastal Commission, 1987, 483 U.S. 825 (108 S.Ct. 314)] between a project and the traffic impacts to State highway facilities. The TIS should also establish the rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)] between the mitigation measures and the traffic impacts. One method for establishing the rough proportionality or a project proponent's equitable responsibility for a project's impacts is provided in Appendix "B." Consultation between the lead agency, Caltrans and those preparing the TIS is recommended to reach consensus on the mitigation measures and who will be responsible.

Mitigation measures must be included in the traffic impact analysis. This determines if a project's impacts can be eliminated or reduced to a level of insignificance. Eliminating or reducing impacts to a level of insignificance is the standard pursuant to CEQA and the National Environmental Policy Act (NEPA). The lead agency is responsible for administering the CEQA review process and has the principal authority for approving a local development proposal or land use change. Caltrans, as a responsible agency, is responsible for reviewing the TIS for errors and omissions that pertain to State highway facilities. However, the authority vested in the lead agency under CEQA does not take precedence over other authorities in law.

If the mitigation measures require work in the State highway right-of-way an encroachment permit from Caltrans will be required. This work will also be subject to Caltrans standards and specifications. Consultation between the lead agency, Caltrans and those preparing the TIS early in the planning process is strongly recommended to expedite the review of local development proposals and to reduce conflicts and misunderstandings in both the local agency CEQA review process as well as the Caltrans encroachment permit process.

APPENDIX “A”

MINIMUM CONTENTS

OF A

TRAFFIC IMPACT STUDY

MINIMUM CONTENTS OF TRAFFIC IMPACT STUDY REPORT

I. EXECUTIVE SUMMARY

II. TABLE OF CONTENTS

A. List of Figures (Maps)
B. List of Tables

III. INTRODUCTION

A. Description of the proposed project
B. Location of project
C. Site plan including all access to State highways (site plan, map)
D. Circulation network including all access to State highways (vicinity map)
E. Land use and zoning
F. Phasing plan including proposed dates of project (phase) completion
G. Project sponsor and contact person(s)
H. References to other traffic impact studies

IV. TRAFFIC ANALYSIS

A. Clearly stated assumptions
B. Existing and projected traffic volumes (including turning movements), facility geometry (including storage lengths), and traffic controls (including signal phasing and multi-signal progression where appropriate) (figure)
C. Project trip generation including references (table)
D. Project generated trip distribution and assignment (figure)
E. LOS and warrant analyses - existing conditions, cumulative conditions, and full build of general plan conditions with and without project

V. CONCLUSIONS AND RECOMMENDATIONS

A. LOS and appropriate MOE quantities of impacted facilities with and without mitigation measures
B. Mitigation phasing plan including dates of proposed mitigation measures
C. Define responsibilities for implementing mitigation measures
D. Cost estimates for mitigation measures and financing plan

VI. APPENDICES

A. Description of traffic data and how data was collected
B. Description of methodologies and assumptions used in analyses
C. Worksheets used in analyses (i.e., signal warrant, LOS, traffic count information, etc.)

APPENDIX "B"

METHODOLOGY FOR

CALCULATING EQUITABLE

MITIGATION MEASURES

METHOD FOR CALCULATING EQUITABLE MITIGATION MEASURES

The methodology below is neither intended as, nor does it establish, a legal standard for determining equitable responsibility and cost of a project's traffic impact, the intent is to provide:

1. A starting point for early discussions to address traffic mitigation equitably.
2. A means for calculating the equitable share for mitigating traffic impacts.
3. A means for establishing rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)].

The formulas should be used when:

- A project has impacts that do not immediately warrant mitigation, but their cumulative effects are significant and will require mitigating in the future.
- A project has an immediate impact and the lead agency has assumed responsibility for addressing operational improvements

NOTE: This formula is not intended for circumstances where a project proponent will be receiving a substantial benefit from the identified mitigation measures. In these cases, (e.g., mid-block access and signalization to a shopping center) the project should take full responsibility to toward providing the necessary infrastructure.

EQUITABLE SHARE RESPONSIBILITY: **Equation C-1**

NOTE: $T_E < T_B$, see explanation for T_B below.

$$P = \frac{T}{T_B - T_E}$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.

T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model date feasible), vph.

T_E = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

EQUITABLE COST: **Equation C-2**

$$C = P\ (C_T)$$

Where:

C = The equitable cost of traffic mitigation for the proposed project, ($). (Rounded to nearest one thousand dollars)

P = The equitable share for the project being considered.

C_T = The total cost estimate for improvements necessary to mitigate the forecasted traffic demand on the impacted State highway facility in question at general plan build-out, ($).

NOTES

1. Once the equitable share responsibility and equitable cost has been established on a per trip basis, these values can be utilized for all projects on that State highway facility until the forecasted general plan build-out model is revised.
2. Truck traffic should be converted to passenger car equivalents before utilizing these equations (see the Highway Capacity Manual for converting to passenger car equivalents).

3. If the per trip cost is not used for all subsequent projects, then the equation below will be necessary to determine the costs for individual project impact and will require some additional accounting.

Equation C-2.A

$$C = P\,(C_T - C_C)$$

Where:

C = Same as equation C-2.

P = Same as equation C-2.

C_T = Same as equation C-2.

C_C = The combined dollar contributions paid and committed prior to current project's contribution. This is necessary to provide the appropriate cost proportionality. Example: For the first project to impact the State highway facility in question since the total cost (C_T) estimate for improvements necessary to mitigate the forecasted traffic demand, C_C would be equal to zero. For the second project however, C would equal $P_2(C_T - C_1)$ and for the third project to come along C would equal $P_3[C_T - (C_1 + C_2)]$ and so on until build-out or the general plan build-out was recalculated.

APPENDIX “C”

MEASURES OF EFFECTIVENESS

BY

FACILITY TYPE

MEASURES OF EFFECTIVENESS BY FACILITY TYPE

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS (MOE)
Basic Freeway Segments	Density (pc/mi/ln)
Ramps	Density (pc/mi/ln)
Ramp Terminals	Delay (sec/veh)
Multi-Lane Highways	Density (pc/mi/ln)
Two-Lane Highways	Percent-Time-Following Average Travel Speed (mi/hr)
Signalized Intersections	Control Delay per Vehicle (sec/veh)
Unsignalized Intersections	Average Control Delay per Vehicle (sec/veh)
Urban Streets	Average Travel Speed (mi/hr)

Measures of effectiveness for level of service definitions located in the most recent version of the Highway Capacity Manual, Transportation Research Board, National Research Council.

Transition between LOS "C" and LOS "D" Criteria

(Reference Highway Capacity Manual)

BASIC FREEWAY SEGMENTS @ 65 mi/hr

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum v/c	Maximum Service Flow Rate (pc/hr/ln)
A	11	65.0	0.30	710
B	18	65.0	0.50	1170
C	26	64.6	0.71	1680
D	35	59.7	0.89	2090
E	45	52.2	1.00	2350

SIGNALIZED INTERSECTIONS and RAMP TERMINALS

LOS	Control Delay per Vehicle (sec/veh)
A	**≤ 10**
B	**> 10 - 20**
C	**> 20 - 35**
D	**> 35 - 55**
E	**> 55 - 80**
F	**> 80**

MULTI-LANE HIGHWAYS @ 55 mi/hr

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum v/c	Maximum Service Flow Rate (pc/hr/ln)
A	11	55.0	0.29	600
B	18	55.0	0.47	990
C	26	54.9	0.68	1430
D	35	52.9	0.88	1850
E	41	51.2	1.00	2100

Dotted line represents the transition between LOS "C" and LOS "D"

TWO-LANE HIGHWAYS

LOS	Percent Time-Spent-Following	Average Travel Speed (mi/hr)
A	≤ 35	> 55
B	> 35 - 50	> 50 - 55
C	> 50 - 65	> 45 - 50
D	> 65 - 80	> 40 - 45
E	> 80	≤ 40

URBAN STREETS

Urban Street Class	I	II	III	IV
Range of FFS	55 to 45 mi/hr	45 to 35 mi/hr	35 to 30 mi/hr	35 to 25 mi/hr
Typical FFS	50 mi/hr	40 mi/hr	35 mi/hr	30 mi/hr
LOS	Average Travel Speed (mi/hr)			
A	> 42	> 35	> 30	> 25
B	> 34 - 42	> 28 - 35	> 24 - 30	> 19 - 25
C	> 27 - 34	> 22 - 28	> 18 - 24	> 13 - 19
D	> 21 - 27	> 17 - 22	> 14 - 18	> 9 - 13
E	> 16 - 21	> 13 - 17	> 10 - 14	> 7 - 9
F	≤ 16	≤ 13	≤ 10	≤ 7

Dotted line represents the transition between LOS "C" and LOS "D"

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