

March 2, 2007

Marin County Planning Commission
3501 Civic Center Drive, Room 308
San Rafael, CA 94903

Dear Marin County Planning Commissioners:

This letter addresses issues concerning flooding considerations for the Tam Valley/Almonte area in the DEIR. Specifically, it suggests the DEIR is insufficient in addressing:

- The potential impact of changes in sea levels on flooding in Tam Junction
- Significant deterioration in Coyote Creek flood control capabilities relative to original estimates
- Shortcomings of the proposed mitigation to protect people and structures from flood damage

General comment – Section 4.5 – Hydrology, Water Quality and Flood Hazards – inability to adequately assess sea level rise

The DEIR (p. 344) explicitly identifies Tamalpais Valley/Almonte (Coyote Creek), already an designated county flood control zone, as susceptible to additional flooding in the future due to change in sea levels and San Francisco Bay tide elevations. At the same time, the DEIR acknowledges a shortcoming in the ability to accurately assess this potential impact of rising sea levels. The Flooding Technical Background Report (Appendix I-J) acknowledges that a 1988 study remains the benchmark for assessing the impact of sea level rise on Marin County. It also indicates a re-mapping of flood zones at a comprehensive county level was deemed infeasible because 1) the impact is too site specific; and 2) existing topographic maps of Marin are insufficiently detailed to map up to a .5 foot change in flood elevations.

Since 1988, there have been significant changes in the understanding of the impact of global warming on sea levels. Although it remains an inexact science, the emerging consensus is that sea levels will rise more quickly than previously believed, perhaps as rapidly as one meter in the next 100 years. The San Francisco Bay Conservation and Development Commission has just completed a study (reported in the Marin IJ of Feb. 1, 2007) of this potential one meter rise in sea level due to global warming. Under that scenario, a major portion of Tam Valley will be under water, including the area identified for Housing Overlay Designation. Even in the absence of a full one meter increase, a rise of any significance in sea levels will make the area more prone to flooding, with a combination of higher tides and watershed runoff. Under any scenario, additional residential development in the Tam Junction area will reduce flexibility, and increase costs, for addressing this challenge going forward.

Further exacerbating this issue is the language in the DEIR concerning an increase in unit density for mix used areas (p. 3.0-33), including, presumably, Tam Valley/Almonte. This states that, “In the Commercial / Mixed use land use categories, the General Commercial / Mixed Use category, the Office Commercial / Mixed Use category, the Neighborhood Commercial / Mixed Use category and the Recreational Commercial category would permit residential development up to 30 dwelling units per acre in addition to the applicable floor area ratio if: 1) the housing is either workforce housing, especially for very low and low income household or special needs housing; and 2) projected peak-hour traffic impacts of the proposed mixed-used development are not greater than that for maximum commercial development permissible on the site under the relevant land use category.” This represents a density increase of 50 percent over the existing 20 units per acre. This further increases the risk of flooding in Tam Valley/Almonte due to more compaction of the earth, more impermeable surfaces and the requirement for undergrounding of drainage channels in an already already barely above sea level today.

Accurately accounting for anticipated sea level changes would likely greatly reduce, if not eliminate, the Tam

Valley/Almonte area as a potential HOD zone.

Suggested mitigation: The County should eliminate the HOD and any potential increase in unit density in Tam Valley/Almonte until it has undertaken a targeted study to assess the increased likelihood of flooding due to rising sea levels on highly susceptible flood areas, including Tam Valley/Almonte.

Existing peak flow capabilities for Coyote Creek have already deteriorated significantly relative to original estimates. This would be exacerbated by additional building. (Impact 4.5-4)

According to the DEIR, erosion and downstream sedimentation will be more likely in areas where infill development and/or development within Housing Overlay Designation areas would occur within the same watershed. Tam Valley/Almonte is one such area. The DEIR identifies the Mill Valley Watershed as one of the more problematic in the county in terms of erosion and sedimentation due to the flood plain of Corte Madera Creek and the steep nature of the local topography. Tam Valley/Almonte suffers from the exact set of circumstances, with Coyote Creek as the natural water channel for the whole watershed and high hills on all three sides of the valley, so it should also be singled out as an area of concern within this section of the DEIR.

In addition, the DEIR does not appear to incorporate recent research which suggests an already steep deterioration of Coyote Creek in terms of peak water flow capacity. "Reassessment of Coyote Creek Channel Management Requirements," a 2005 study commissioned by the county by hydrology consultants Philip Williams and Associates, explored changes to improve the operations of the Coyote Creek and mitigate potential flood situations. According to that study, "The level of protection intended by the original flood channel design for future build-out conditions was for the 20-year storm event and called for the containment of 1750 cfs in flood channel in the vicinity of Highway 1 with freeboard. Based on analyses performed in this study, the revised flood discharge associated with 20-year storm event and current build-out conditions increased 12 percent to 1952 cfs. Using the revised hydrology, it was estimated that the original flood discharge at Highway 1 now has a decreased level of protection approximating the 12-year event." This is an almost halving of the anticipated flood frequency period since the original Coyote Creek project. Additional residential development in the Tam Junction area, with the potential concomitant increase in watershed water flow due to more impermeable surfaces and under grounding of runoff channels, would exacerbate this situation. In any case, the study clearly suggests the danger of flooding in the Tam Valley area due to higher flood discharge from Coyote Creek has increased significantly over time.

An increase in unit density for mixed use areas, as outlined in my first point above, would create an additional burden on the water flow capacity of Coyote Creek by potentially allowing higher density housing along both Coyote Creek and Bothin Marsh.

Suggested alternative mitigation: The DEIR indicates that its recommended series of mitigations would be sufficient to reduce the erosion and associated impacts of the overall project level to less than significant levels at the county level. However, the data indicated by the 2005 study shows that, at least for Coyote Creek, previous design elements and current allowable building have resulted in a significant decrease in peak water flow for the creek, suggesting that official calculations for erosion and sediment have been miscalculated and under counted. Nor have the recommendations of the 2005 study yet been acted upon. An alternative mitigation would be to consider options for Bothin Marsh restoration to improve peak flow capacity of Coyote Creek and to remove Tam Valley/Almonte as an HOD zone.

Shortcomings in the mitigation measures regarding protection of people and structures from flood hazard (Impact 4.5-7)

The DEIR identifies the danger to people and structures of building in a flood plain and in areas subject to high watershed runoff (Impact 4.5-7) and recommends several mitigation measures. Tam Valley/Almonte is one of four areas in Marin that the DEIR identifies for which parcels within the Housing Overlay Designation would be

affected by combined rising sea level and watershed floods. It proposed the possibility of having to raise structures in these areas so that the lowest structural levels are above the 100-year flood plain. It also highlights how new development must be designed to not produce additional flood factors (via addition of impermeable surfaces, compaction of ground, underground draining channels, etc.). Beyond adding a significant layer of planning complexity to any development project in the area, such complicated design requirements are likely to result in higher cost of building (which is problematic given that the HOD is designed explicitly for affordable housing.)

Despite numerous existing regulations that would help alleviate the risk of flood danger to people and structures in the affected areas, the DEIR concludes that these regulations are insufficient, and that **“this would have a significant project impact and the project would make a cumulatively significant contribution to a cumulative impact (p. 387).”** The DEIR proposes a series of mitigations related to sea level rise and channel stability. These cover groundwater recharge and drainage, a commitment to find funding to combat the adverse effects of sea level rise, an amendment to the Marin County Development Code to include construction standards for areas subject to sea level change, and continued implementation of County ordinances to regulate floodplain development to minimize both project and cumulative impacts to flooding.

The DEIR clearly discourages additional building in these flood zones. It is arguing for changed building rules for these zones, as well as additional spending. This creates an untenable chicken and egg scenario, in which the county is proposing a certain level of HOD building for Tam Valley and other areas without having the rules in place that the DEIR says are needed to mitigate the impact of that very housing. To be effective, the mitigations proposed by the DEIR must precede any decision by the county on the number of HOD units an area like Tam Valley can support.

As for the previous two points, the language in the DEIR concerning an increase in unit density for mix used areas (p. 3.0-33) would further exacerbate this issue by allowing higher density building in the Tam Junction area, including along Coyote Creek and Bothin Marsh.

Suggested alternative mitigation: Tam Valley/Almonte should be removed from consideration for HOD units as well as for any change in land use rules allowing higher density until **after** the various new regulatory requirements for building in areas prone to sea level rise are completed. Only then can a reasonable and sustainable target for housing be developed.

Thank you for your consideration.

Sincerely,

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