To: Mark Hutchinson

From: SLO Green Build – Technical Committee
Date: January 30, 2009
Re: Comments for LOWWP DEIR

SLO Green Build is committed to the pursuit sustainable and livable communities. This includes environmental design in community planning; green building techniques and materials, conservation and the investment of emerging appropriate technologies. We support business and government choices that utilize triple bottom line accounting, the simultaneous pursuit of social equities, environmental health and economic prosperity. We support decision-making processes that incorporate integrated design, life cycle costing and whole systems reflection. Upon these principals the following recommendations and requests are submitted regarding the LOWWP DEIR.

First, we recognize mutual agreement that immediate action needs to be taken to;

1. Reduce nitrate releases into the groundwater and treat existing wastewater.
2. Stop and reverse salt-water intrusion into fresh water aquifers.
3. Plan for future development.

Potential significant negative environmental impacts exist if, aggressive conservation and incorporation of appropriate technologies are omitted from efforts to mitigate the agreed upon issues. The current DEIR does not address system choices in an integrated approach. The critic focuses on the system choice alone. Conservation and other measures are viewed separately and little at that. These measure include, but are not limited to, Low Impact Development strategies, rainwater harvesting and cisterns, greywater, and composting toilets.

Water conservation goals in the DEIR are stated to be a 10% reduction of potable water pumping by the year 2020. This 10% goal falls short of what can be achieved, and the time frame is far too long. The December 2008 California Chronicle reports California Assembly Bill 49 will reduce urban per capita water use 20 percent by 2020. The LOWWP should, at a minimum, apply this 20% goal. San Luis Obispo County has declared the Los Osos basin as a Level III water severity, the County's highest level of severity. Many studies and reports show communities are living comfortably with average daily use per person in the 35-to 50 gpd ranges. The DEIR states average per person indoor use in Los Osos at approximately 66 gpd. We feel a 20-30% reduction of potable water use within the first few years after the project starts is a reasonable goal. Conservation efforts should begin at first opportunity. Water conservation reduces the overall volume and costs of the LOWWP. It also reduces salt-water intrusion (SWI). The DEIR states that SWI is moving at a startling rate of approximately 60 feet per year. Many would argue that salt-water intrusion is more of a threat to the Los Osos basin than ground water nitrates.

There are numerous government programs that support technologies and behaviors that use water resources more wisely and reduce pollutants in our ecologies. Water purveyors and communities need to find programs that are mutually supported There are many statistics and resources available that attempt to quantify conservation in gallons, dollar savings, energy use and reduction in pollution. There are varying numbers available. But all agree, conservation and the use of emerging appropriate technologies could conserve, reuse or capture are water resources. Following are some examples;

1. Coroma high efficiency dual flush toilet conserves approximately 3,800 gallons per year over a gallon toilet in a typical home.

2. Two and a half bath home in Santa Barbara saves approximately 190,740 gallons of potable water over a twenty (20) year period using greywater for irrigation needs.

3. Energy star clothes washer will save $500 dollars and 5,000 gallons of water a year and all water can be re-used for sub-surface irrigation

4. A leaky toilet can waste 200 gallons per day or 73,000 gallons a year.

5. 1" of rain captured on a 1000 sq/ft roof will produce 630 gallons; a normal Los Osos yearly rainfall of 17" would produce 10,710. A 2000 sq/ft roof would produce 21,420

The DEIR states (p.2-13)…"proposed (LOWWP) projects may include the proposed water conservation measures, which mandate that property owners retrofit… with low flow fixtures…prior to hooking up to the sewer." In this section "may include" should be changed to "must include…". If 'may', is exercised to 'may not', then not mandating water conservation will result in significant negative environmental impacts to water quality.

Mandatory retrofits and other aggressive conservation measures should begin to be implemented immediately. An analysis should be done comparing the benefits and environmental impacts of immediate conservation versus a delayed, phased implementation of conservation.

A potential significant environmental impact exists in the recharging of the basin and reduced flows to the National Estuary/State Marine Reserve. Specifically as a result from delayed conservation efforts, and the basin balance conditions from table 8, Appendix D-2 (Hopkins Groundwater Consultants) may have used incorrect assumptions, calculations and/or modeling for upper aquifer recharge as it relates to septic return flows. Keith Wimer and others have provided independent review of table 8. There is justification to reanalyze or reevaluate basin balance calculations in table 8 based on these independent reviews. Please see Keith Wimer's (LOCAC, LOSG) DEIR comments on table 8 for detailed explanations. We have met with Keith and critiqued his paper. We support his long hours of research and service to his community.

A water conservation survey needs to be completed as part of further DEIR analysis. To our knowledge no such survey exists in the DEIR (or elsewhere) showing what percentage of the

Prohibition Zone (PZ) has water efficient fixtures/appliances. Where is the critical data on current conservation measures? What is the arena for this evaluation and analysis to take place? How can assumptions and planning be made with lack of base line date? Such a survey would play a significant role in analyzing the potential significant impacts on the environment.

Based on these findings and lack of surveys one can make a reasonable assumption that there is a potential significant negative environmental impact. The DEIR does not offer sufficient mitigation alternatives to this potential negative environmental impact. It is widely accepted that intensive water conservation is highly important.

Traditional low flow toilets will help with conservation. Dual flush, high efficiency toilets will allow an even greater reduction of water use. Caroma high efficiency dual flush toilets can conserve approximately 3800 gallons per year per home over a low flow 1.6g toilet. Much greater savings are realized over traditional 3.5g toilets. Beyond dual flush toilets is composting toilets that require no water. Composting toilets should at a minimum be referenced in the DEIR in order to increase awareness of this viable technological option. We realize there may be barriers to implementing composting toilets. However, we strongly urge the county to consider implementing composting toilets in a number of test cases. These test cases can be observed, monitored, maintained and regulated for research, learning and public awareness and outreach.

Another important factor in conservation is an aggressive campaign in updating water appliances, shower heads etc. With proper financial incentives and planning, many outdated appliances can be replaced. It is quite common for local governments, manufactures and utilities such as PG&E to offer rebates. Water demand for laundry use alone could be cut in half to two-thirds in each household that is retrofitted. Older top load machines can use over 50 gallons per load, new front load machines use as little as 16 gallons per load. High efficiency machines also use much less detergent. The DEIR does not fully address updating water appliances and should place more emphasis on this option with detailed plans of action. Again, baseline data is needed for proper evaluation of environmental impacts.

For homes that already have low flow toilets and/or high efficiency laundry machines the county could offer a “menu of options” for conservation using the allotted dollar amount per home. Other choices could include efficient dishwashers, hot water circulators etc.

The DEIR does not analyze, nor emphasize gray water use. We request the analysis and evaluation of gray water in regards to its potential environmental impact on this project. Gray water technology has potential to reduce ground water pumping demand. Gray water can effectively be diverted to on lot subsurface landscape irrigation. Typically laundry drainage is easily accessible, thus reducing costs to install, and gray water is permitted in San Luis Obispo County. In addition to reducing pumping demands on potable water, gray water provides a recharge element for the basin. Reuse of gray water reduces the pumping costs and flows of wastewater to the treatment site.

Treated effluent used in agricultural exchange has mention in the DEIR but is not included in the charts or tables for planned effluent reuse. Spray fields play too large a role in effluent disposal, versus reuse. This is another area where significant environmental impacts could occur. Effluent reuse must benefit the basin. It is important that this treated effluent be utilized as a valuable resource and not simply sprayed onto grasses that are planned to be cut and disposed of at Cold Canyon Landfill. The DEIR states the cutting and disposing of the grass will occur several times a year. This is a tremendous waste of water resources, truck miles to and from the landfill, and associated traffic congestion and air pollution. Please analyze cradle-to-cradle opportunities as related to the water resource. If spray fields must be used, the crops grown could be composted on site or, crops could be grown for biofuels, feed or fodder.

Ideally, all treated effluent returns to the basin for reuse or recharge. If sufficient recharge options are not immediately available in the basin, then the treated effluent should be applied to agricultural exchange. Farmers can use the treated effluent with its inherent beneficial nutrients on viable economic crops. This eliminates the cutting and disposal aspects of the spray field option. Farmers and growers using the treated effluent are able to reduce their pumping demands on the Los Osos aquifer. This reduced pumping helps alleviate salt-water intrusion, and balance the basin.

We believe conservation, appropriate technologies and LID strategies can reduce a negative environmental impact during peak wet weather flows and also that these strategies have not been fully analyzed in the DEIR. We request proper analysis into the mitigation of peak wet weather and flow loads incorporating appropriate technologies, and LID.

The implementation of LID technologies needs more emphasis in the DEIR. Many miles and thousands of square feet of what are now impervious surfaces will be removed or disrupted. These impervious surfaces can, and should be replaced with pervious paving/surfacing options that would allow storm water to percolate and recharge the Los Osos basin. As rights of ways are more clearly identified and utilized for the LOWWP, and as final design begins we encourage the use of pedestrian walk ways, community areas, buffer strips, and other multifunctional landscapes that utilize impervious surfaces, bio-swales and other LID techniques that can reduce storm water runoff and increase basin recharge. The City of Seattle has had success securing large grants for this type of strategy, specifically using LID strategies in conjunction with the installation of the collection system. The Central Coast LID Center could prove to be a key partner in this type of strategy. The CC LID's Darla Inglis has had success obtaining large grants for Seattle and implementing this type of strategy.

Storm water is a growing area of concern with state water boards and environmental groups. The County has a unique opportunity with the LOWWP, in working with other departments and agencies to surge forward in progress with storm water management and LID strategies.

We strongly recommend the use of abandoned and cleaned septic tanks for rainwater catchments vessels/vaults. Gutters and impervious surface areas can be directed to the abandoned septic

tank. Rainwater can then be allowed to flow passively to the abandoned leach field/pit, thus recharging the basin. The rainwater could also be pumped from the septic vault to other onsite areas for landscaping irrigation. Rainwater is captured and redirected to the basin for recharge. Storm water runoff is greatly reduced.

As the purple pipe is brought back through town, the treated effluent from the purple pipe could be used for irrigation at nearby schools, parks, and public rights of ways along the purple pipe corridor. This may require tertiary treatment.

We request that there is analysis of the compatibility between intensive water conservation and all proposed systems. Is there evidence that certain types of systems, by their design, require higher water flows? Any proposed system must allow the community to aggressively pursue water conservation in the future."

The County, as lead agency has an opportunity for the advancement of progress in protecting the National Estuary and the Los Osos basin. We highly encourage the County to take aggressive steps toward intensive water conservation and reuse programs in an integrated approach. We encourage the County to implement innovative LID strategies that maximize protection and conservation of our resources.

<u>In summary we request a proper analysis of these technologies/strategies and their potential environmental impacts:</u>

- Delaying of water conservation goals to the year 2020 versus immediate implementation of intensive water conservation, please include full analysis on salt water intrusion
- Establishing baseline water conservation data through surveys and water audits
- Composting toilets (at a minimum, create limited test sites for research, outreach)
- Gray water use (at a minimum, laundry hookup, subsurface on lot irrigation)
- Rain harvesting, gutters directed to abandoned septic tanks/leach fields for passive recharge, please include analysis of impact during peak wet weather flows and loads
- Rain gardens, bio retention swales, multifunctional LID landscapes, and pervious surfaces, please include analysis of impact during peak wet weather flows and loads
- LID strategies implemented in conjunction with collection system installation
- Analysis of the compatibility between intensive water conservation and all proposed systems.
- Effluent reuse for economically viable agricultural exchange

Per the DEIR, page 5.2-5, section 5.2.3a-b, "…according to CEQA Guidelines…would the project: substantially deplete…or otherwise substantially degrade water quality". There is

the potential that not implementing the technologies suggested above may result in substantial depletion or degradation of water quality, a significant environmental impact.