

concept with Dr. Tchobanoglous last Saturday, and we both feel that it is technically and economically doable. We would simply mimic the biogas collection systems used for about three decades in landfills, and apply it to the interceptor tanks. This is still on the drawing boards, but we hope to have it far enough along later this year that we include it in our team's response to the County's RFP. We know there is no (known) precedent for this for STEP tanks, however there is plenty of precedent for collection of similar biogas from dispersed landfill gas wells. Theoretically, if it works, the whole tertiary wastewater system could power itself and potentially produce an excess for sale to the grid.<sup>lix</sup>

Regarding greenhouse gas emissions associated with operation of the collection system, we note that the advantage of primary treatment and holding at the STEP tank utilizes natural organisms to digest raw sewage, reducing demand and volume on treatment process and solids disposal, thus reducing pumping.

Because the collection system is integral to the treatment system, we must address the issue of methanol which is being recognized by the LOWWP as the only carbon source treatment solution for treating the high nitrate levels of effluent for a STEP treatment plant. As Bill Cagle, National Accounts, Orenco Systems Inc. stated, "Other sources used for de-nitrification include acetic acid, glucose, benzoic acid, and micro-C" without as great an impact on the environment.<sup>lx</sup> Micro C, for instance, is derived from renewable agricultural products that are abundant in the United States while methanol (the current industry standard) is derived from non-renewable natural gas.<sup>lxi</sup> With an Agricultural Exchange/Reuse program, denitrification is unnecessary because the treated water containing nitrates could be used on selected crops eliminating the need for nitrate fertilizers. Lastly, after reviewing the County's figures for methanol, Greg Dolan, Vice President of the Methanol Institute, stated, "Based on actual operating experience, we show that methanol manufacturing plants emit 3.8 lbs of CO2 per gallon of methanol, versus the 15.6 lbs quoted in the County report."<sup>lxii</sup>

#### **Conventional Gravity Collection System:**

The LOWWP Technical Memorandum, "Project Alternatives Greenhouse Gas Emissions Inventory" does not address the GHG emissions of the gravity collection system but focuses on treatment. However, it does address GHG emissions as they pertain to construction. Gravity's GHG emission levels are approximately 20-25% higher than the GHG emissions estimated for the construction of a STEP system.<sup>lxiii</sup>

Like STEP, Gravity treatment also requires denitrification and this can be eliminated through the use of Ag Exchange.

#### **Summary:**

STEP systems have associated methane emission issues; however, with the implementation of a methane capturing solution, this problem could be mitigated and provide further

benefits in the form of an energy source for the wastewater project. Conventional gravity collection systems also contribute greenhouse gas emissions because the systems employ pumping, which is one of the greatest producers of GHG. To better understand the amount of greenhouse gasses that each collection system would contribute, we believe that GHG Emissions issues warrant further analysis beyond that provided in the LOWWP Technical Memorandum, "Project Alternatives Greenhouse Gas Emissions Inventory."

## **7. Biosolids**

Biosolids are a key environmental issue because the quantity and quality of biosolids dictate the likelihood of creating a small community composting facility, thereby allowing the liability of biosolids to become an asset.

### **STEP/STEG Collection System:**

The primary treated biosolid from a STEP system yields itself more effectively to the future development of a small community biosolids composting facility that can transform the biosolids liability into a compost matter asset. At present, the new tertiary conventional gravity wastewater treatment plant at the California Men's Colony (CMC), one the same size as that proposed for Los Osos, 1.2mgd, produces 600 tons of biosolids per year which are hauled to Kern County twice/year. The expense for Kern County to receive the biosolids is \$24,000/year and this does not include the cost of fuel/trucking or GHG emissions. Kern County is then turning the biosolids into compost and selling the CMC liability as their asset.<sup>ixiv</sup>

STEP tank pretreatment reduces biosolids mass by 75% creating a more suitable matter and quantity to compost.<sup>ixv</sup>

Additionally, STEP collection systems provide short-term emergency storage in the STEP tank in the event of a major storm or if there is an on-lot system failure, thereby minimizing the risk of spills to the bay.

### **Conventional Gravity Collection System:**

A conventional gravity collection system pumps the biosolid as well as effluent through 45+ miles of pipe, and, as stated in the I/I and Exfiltration section, places the bay at greater risk during a major storm event or system/power failure (at the 20 pump stations).<sup>ixvi</sup> We have recently seen the damage caused by a gravity system failure with the CMC spill of 20,000 gallons of sewage going into the bay in 10 minutes.<sup>ixvii</sup>

The gravity collection system estimated solids volume is averaged at 4,000 lbs/day dry weight, meaning 730 tons/yr dry weight compared to STEP's 1,000 lbs/day dry weight, or 182.5 tons/yr dry weight. Gravity biosolids, therefore, are 75% greater in mass with associated impacts for hauling, GHG emissions, and land impacts.<sup>ixviii</sup>

### **Summary:**

The STEP collection system estimated solids volume is 75% less than that of gravity and therefore we believe that the pumping of primary treated biosolids every 5-10 years from a STEP system will be less in volume than the biosolids removed from a gravity system.<sup>lxxix</sup> Presently, the new CMC tertiary gravity sewer system, one the size planned for the LOWWP (1.2mgd), hauls 1,200 tons of solids annually to Kern County.<sup>lxxx</sup> Depending on whether the LOWWP biosolids would need to be trucked out of the county or whether they are composted locally, the increased frequency of biosolid removal from STEP tanks could be viewed negatively or positively. However, the *Pro/Con Analysis* states that the STEP collection system "provides primary treatment in septic tanks, thereby reducing down-line costs for treatment system and solids treatment and disposal."<sup>lxxxi</sup> We believe a STEP system yields itself more effectively to the future development of a small community biosolids composting facility for the above-stated reasons.

## 8. Odors

Odors are an environmental-cultural-aesthetic issue. To live, play and work in a community, one hopes not to engage foul odors coming from a sewer system.

### **STEP/STEG Collection System:**

The LOWWP Fine Screen Analysis states, "Odor control measures will be required at high points throughout the system where air within the piping is released to prevent air bubbles from forming. Odor control will consist of carbon media canisters that remove the odorous compounds such as hydrogen sulfide from the air as it passes through the media. The canisters and air release valves on the pressurized main lines would be enclosed in a small (approx. 3 by 4 by 4 feet) buried vault. STEP tanks would be vented to roof level, similar to existing septic tanks."<sup>lxxxii</sup>

### **Conventional Gravity Collection System:**

For gravity, the potential collection system odors would occur at the 807 manholes and 20 pump stations located throughout the community, however, the LOWWP *Fine Screen Analysis* has inadequately addressed gravity collection system odor issues and we request there be further analysis.<sup>lxxxiii</sup>

### **Summary:**

Rob Miller, Principal Engineer, Wallace Group, and, Vice Chair on the LOWWP Technical Advisory Committee, has noted that both collection systems have potential odor sources. For STEP they are slightly higher, but both can be managed.<sup>lxxxiv</sup>

## 9. Economic Sustainability

The collection system's economic sustainability is integral with balanced metrics of Environmental, Social, and Financial Sustainability." <sup>lxxv</sup> The LOWWP collection system should be as affordable as possible to promote its sustainability. Ultimately, a project's environmental sustainability is tied to its social and economic sustainability.

#### **STEP/STEG Collection System:**

The LOWWP *Fine Screening Analysis* found that the STEP/STEG collection system would be the least costly. <sup>lxxvi</sup> Further refinement in costs, with further review and actual project bids, we believe, will reveal greater costs savings of a STEP/STEG collection system. As Jonathan Todd stated,

I do feel that any sewerage is better than none. The fate of the bay depends on it. That said, conventional gravity sewers are not the most cost effective or environmental solution for Los Osos. I believe that a small diameter pressure system will suit the community best. <sup>lxxvii</sup>

Determining the number of STEG units (without pumps) needed for the STEP/STEG collection system will further reduce the cost of the collection system and its energy usage impact. STEP tanks placed in the 25% of backyards which already have their septic tanks located there would also decrease energy demands as well as the expense of the collection system (eliminating the need for 2 hp grinder pumps). <sup>lxxviii</sup>

Reevaluating the notion that STEP tanks must be pumped every five years will also reduce the cost and GHG emissions from pumping. STEP tank primary treatment reduces biosolids by 75% that of conventional gravity (182.5 dry weight tons/year instead of 730 dry weight tons/year) and the health and effectiveness of the STEP tank is dependent upon the biosolids ecosystem where an average pumping of every 10 years is adequate. <sup>lxxix</sup> Furthermore, because of the significant reduction in biosolids, hauling costs are reduced and creating a small community composting facility is more viable.

The cost of the entire STEP/STEG system can be further reduced during treatment through Ag-Exchange, wherein certain crops could utilize the treated water containing nitrates (thus eliminating the need for fertilizer). Cost reductions, reduced energy usage, and reduced GHG emissions would occur by replacing methanol with a less toxic and dangerous carbon source denitrification solution. Every gallon of MicroC used (instead of methanol) saves the energy equivalent of heating 0.5 US households per day or providing electricity for 0.7 US households per day. MicroC requires only one third the overall energy input as methanol. The manufacturing and distribution of MicroC is far less energy-intensive than methanol and results in an overall energy savings of 72,000 BTU for each gallon of methanol replaced by MicroC. <sup>lxxx</sup>

#### **Conventional Gravity Collection System:**

The potential need to seal (fuse weld) bell-and-spigot joints in significant portions of a gravity collection system

to achieve minimum environmental safeguards (e.g., against earthquakes, I/I and exfiltration, to meet CCRWQCB Prohibition Zone zero discharge requirements, and future sea level rises with predicted increases in storm and tidal energy) have yet to be factored in to the cost of a gravity system. However, the LOWWP *Fine Screening Analysis* does address the cost of loosening bell-and-spigot joints: "Properly installed bell-and-spigot sewers will be watertight at first, and then slowly lose their integrity as the surrounding soils shift, compressing the pipes, and compromising their seals at the joints. The water-tightness of a bell-and-spigot sewer can be preserved if a maintenance program is conducted on an ongoing basis to detect and repair leaks. This program would add to the cost of a gravity sewer compared to a STEP/STEG sewer with similar levels of I/I." <sup>lxxxix</sup>

The gravity collection system estimated solids volume is averaged at 4,000 lbs/day dry weight, meaning 730 tons/yr dry weight compared to STEP's 1,000 lbs/day dry weight, or, 182.5 tons/yr dry weight. Gravity, therefore, has a 75% greater impact on hauling fees and associated GHG emissions. <sup>lxxxix</sup>

The costs of the gravity system can be reduced through Ag-Exchange, wherein certain crops could utilize the treated water containing nitrates (thus eliminating the need for fertilizer).

#### **Summary:**

At present, the LOWWP *Fine Screening Analysis* has determined that the STEP system is the least expensive without factoring in the above-stated environmentally enhancing solutions that would reduce the cost of the STEP system even further. In contrast, the LOWWP *Fine Screening Analysis* has not factored in the cost of fuse welding gravity collection system pipes in the high groundwater areas or factored in fuse welding gravity collection system pipes in the areas that will be impacted by an 8 inches to 2 feet sea level rise prediction within the lifespan of the LOWWP. <sup>lxxxiii</sup> Based on the economic benefits, that the LOWWP *Fine Screening Analysis* shows STEP as potentially \$25 million less expensive than gravity in construction costs, it further substantiates the conclusion that STEP is the environmentally sustainable preferred solution. <sup>lxxxiv</sup>

### **CONCLUSION**

Morro Bay is the only major California estuary south of San Francisco that is not significantly altered by human activities and, based on the factors outlined above, we believe that a STEP collection system will best assist the bay's protection and stands out as the environmentally appropriate collection system for Los Osos.

We are very pleased to have had the opportunity to make this assessment upon Chairman Patterson's request. We look forward to seeing these issues will be addressed within the scope of the upcoming NWRI Independent Peer Review and to participating in the future stages of the LOWWP and the soon-

to-be-released Draft EIR. We close with a statement by Chumash Elder, Fred Collins,

It is time for the community of Los Osos to come together and get this job done. As we go into the future, we want our great-grandchildren to be able to enjoy the Back Bay as it once was, and they will possibly study this challenge as one where all people came together to accomplish a great task.<sup>1xxxv</sup>

Submitted by:

**The San Luis Bay Chapter of the Surfrider Foundation**

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*Surfrider Foundation is a non-profit environmental organization dedicated to the protection and enjoyment of the world's waves, oceans, and beaches for all people, through conservation, activism, research and education.*

**The Santa Lucia Chapter of the Sierra Club**

<http://santalucia.sierraclub.org/>

*The mission of the Sierra Club is to explore, enjoy and protect the wild places of the earth; To practice and promote the responsible use of the earth's ecosystems and resources; To educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.*

**SLO Green Build**

*SLO Green Build is a non-profit group of architects, builders, community planners and area residents dedicated to increasing the use of green building on the Central Coast. We help local governments, building professionals and homeowners design, construct and remodel homes and facilities using sustainable building practices and materials.*

<http://www.slogreenbuild.org/>

**Los Osos Sustainability Group**

*The mission of the Los Osos Sustainability Group is to participate locally in the worldwide effort to protect, preserve, restore, and expand for future generations the environmental, social, and economic gifts and opportunities enjoyed by current generations.*

**The Terra Foundation**

[www.terrafoundation.org](http://www.terrafoundation.org) (under construction)

*The Terra Foundation works toward creating and enhancing connection with the earth through community education and stewardship of the land.*

## **Northern Chumash Tribal Council**

<http://northernchumash.org/>

*NCTC mission is to offer a foundation for the Chumash people of San Luis Obispo County to bring our culture and heritage back to life, create dignity with the people, educate the public that the Chumash have always been here we have not gone anywhere and we will always be here, one continuum. We are the Chumash of over 20,000 years of habitation in San Luis Obispo County.*

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<sup>i</sup> “As you know, I do feel that any sewerage is better than none. The fate of the bay depends on it. That said conventional gravity sewers are not the most cost effective or environmental solution for Los Osos. I believe that a small diameter pressure system will suit the community best.” – Jonathan Todd, CEO, John Todd Ecological Design, Inc. Email correspondence with Dr. Mary Fullwood, August 7, 2008. Also see <http://www.toddecological.com/>

<sup>ii</sup> For further elaboration on the tri-metrics of Sustainability see, for example, Assemblyman Sam Blakeslee, “Redefining the Rules and Roles of Environmental Politics”, *Santa Lucian*, July/Aug. 2008 (p. 9). <http://santalucia.sierraclub.org/lucian/lucian.html>.

<sup>iii</sup> California Department of Fish and Game. *Master Plan for Marine Protected Areas*, April 13, 2007 (p. 52).

<sup>iv</sup> Alex Hinds, former SLO County Director of Planning and Building. *Resolution Supporting the Proposal of the Central Coast National Marine Sanctuary Designation*. Submitted to Joseph Uravitch, Chief, Marine and Estuarine Management Division, Office of Ocean and Coastal Resource Management, National Ocean Service/NOAA on December 24, 1990.

<sup>v</sup> The United States Environmental Protection Agency (USEPA) estimates that there are at least 40,000 sewage overflows each year. (State of California Regional Water Quality Control Board Central Coast Region Staff Report for Special Meeting of November 19, 2004.)

<sup>vi</sup> Larry Allen, Executive Director, SLO County Air Pollution Control District. Panel presentation, *Faith, the Environment and You* hosted by Congresswoman Lois Capps at First Presbyterian Church, San Luis Obispo, CA, August 6, 2008.

<sup>vii</sup> Dana Ripley, Ripley Pacific Company. Personal communication with Dr. Mary Fullwood, August 29, 2008.

<sup>viii</sup> We would like the NWRI Independent Peer Review panel to address this issue and clarify the actual vulnerability of STEP systems at the point of connection and the tank.

<sup>ix</sup> SLO County LOWWP Development. *Technical Memorandum: Flows and Loads*. Final Draft, February 2008, pp. 7 and 10.

<sup>x</sup>

<http://www.slocounty.ca.gov/Assets/PW/LOWWP/document%2Blibrary/Dr.%2BT%24!27s%2Bcom%2Bments.pdf>

<sup>xi</sup> SLO County LOWWP Development. *Technical Memorandum: Flows and Loads*. Final Draft, February 2008, pp. 7 and 10.

<sup>xii</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 1-9. For instance, the Rocky Mountain Institute stated that in 2004 the maintenance cost of hydroflush cleaning services averaged \$512 per mile hydroflushed per year and television inspection services

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averaged \$4,600 per mile TV-inspected per year. See *Valuing Decentralized Wastewater Technologies: A Catalogue of Benefits, Costs, and Economic Analysis Techniques*, 2004, p. 107.

<sup>xiii</sup> Section 3.3, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007 states “over 45 miles of pipelines” will be required for the LOWWP.

<sup>xiv</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4. The Rocky Mountain Institute stated that in 2004 the maintenance cost of television inspection services averaged \$4,600 per mile TV-inspected per year. See *Valuing Decentralized Wastewater Technologies: A Catalogue of Benefits, Costs, and Economic Analysis Techniques*, 2004, p. 107.

<sup>xv</sup> Exfiltration pollutes ground water and surface water (e.g., seeps to bay), and is assumed to be a major cause of pollution and beach closures (see EPA Exfiltration and Beach Closure reports).

<sup>xvi</sup> See Table 3.1, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007.

<sup>xvii</sup> National Water Research Institute (NWRI) *Final Report of the Independent Advisory Panel on Reviewing the Los Osos Wastewater Management Plan Update*, December 4, 2006, Section 3.2.8, p. 5.

<sup>xviii</sup> State Water Resources Control Board Order No. 2006-0003, *State General Waste Discharge Requirements for Sanitary Sewer Systems*, May 2, 2006, p. 1.

<sup>xix</sup> *Ibid.*

<sup>xx</sup> See, for instance, Seacoast Utility Authority, Palm Beach County, Section IV – Sanitary Sewer System.

<sup>xxi</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, 1-11; and, SLO County LOWWP Development, *Technical Memorandum: Flows and Loads*. Final Draft, February 2008, p. 11.

<sup>xxii</sup> California Regional Water Quality Control Board Central Coast Region, *Staff Report for Special Meeting of November 19, 2004*, p. 1. SLB Surfrider’s “Statement of Key Environmental Issues: LOWWP 7/17/07.”

<sup>xxiii</sup> Dana Ripley, Ripley Pacific Company. Personal communication with Dr. Mary Fullwood, August 17 and 19, 2008.

<sup>xxiv</sup> See Table 3.4, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007. This figure can be 100% if STEP tanks also go in the 25% of septic locations in backyards.

<sup>xxv</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4.

<sup>xxvi</sup> Rob Miller noted, “Where very deep trenching is required, the width depends heavily on the method of construction. There are costly ways to keep the trench impact narrow, but it requires specialized shoring equipment.” Rob Miller, Principal Engineer, Wallace Group and Vice Chair, LOWWP Technical Advisory Committee. Personal communication with Dr. Mary Fullwood, August 11, 2008.

<sup>xxvii</sup> See Table 3.1, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007.

<sup>xxviii</sup> This estimate is based on the contract estimate for the previously proposed conventional gravity midtown project which is now being considered in relation to alternative systems and locations.

<sup>xxix</sup> See Table 3.4, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007. This figure can be 100% if STEP tanks also go in the 25% of septic locations in backyards.

<sup>xxx</sup> Dana Ripley, Ripley Pacific Company. Personal communication with Dr. Mary Fullwood, September 1, 2008.

<sup>xxxi</sup> Fred Collins, Administrator, Northern Chumash Tribal Council. Direct communication with Dr. Mary Fullwood, August 9, 2008.

<sup>xxxii</sup> Alex Hinds, former SLO County Director of Planning and Building. *Resolution Supporting the Proposal of the Central Coast National Marine Sanctuary Designation*. Submitted to Joseph Uravitch, Chief, Marine and Estuarine Management Division, Office of Ocean and Coastal Resource Management, National Ocean Service/NOAA on December 24, 1990.

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<sup>xxxiii</sup> Fred Collins, Administrator, Northern Chumash Tribal Council. Direct communication with Dr. Mary Fullwood, August 9, 2008.

<sup>xxxiv</sup> Northern Chumash Tribal Council statement submitted to the SLO County Board of Supervisors and LOWWP Project Team, June 19, 2007.

<sup>xxxv</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4.

<sup>xxxvi</sup> Additional notes: Core drilling – do core drilling every 100ft to see at which depth is it safe to bore without encountering a site. When near a site, core every 20-50ft to be cautious. If four feet shows evidence of a site but at five feet hitting nothing than bore that section at 5', 10'. Gravity V-trenching, 8ft deep in sandy soil can easily be 25ft wide. Fred Collins, Administrator, Northern Chumash Tribal Council. Direct communication with Dr. Mary Fullwood, August 9, 2008.

<sup>xxxvii</sup> Ronald Crites and George Tchobanogous, *Small and Decentralized Management Systems*. New York: McGraw-Hill, 1998, p. 348; and, LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4.

<sup>xxxviii</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4. Section 3.3, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007 states “over 45 miles of pipelines” will be required for the LOWWP.

<sup>xxxix</sup> Fred Collins, Administrator, Northern Chumash Tribal Council. Direct communication with Dr. Mary Fullwood, August 9, 2008.

<sup>xl</sup> Ibid.

<sup>xli</sup> Ronald Crites and George Tchobanogous, *Small and Decentralized Management Systems*. New York: McGraw-Hill, 1998, p. 348; and, LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4.

<sup>xlii</sup> Collins concluded, “NCTC is working on the Nacimiento Water Pipeline as Chumash Consultants and observing the accuracy of boring technologies and it is amazing, it is truly the way of the future. The Chumash Community has always stood on the principle of Chumash Site avoidance, always keep our sites in-place, undisturbed, because for us our Ancestors Energies are still present, as this is our truth. So for us that write words and make appearances for the protection of our ancient civilization, we who are the Guardians, would be very happy if this project would be conducted with our Spiritual Understanding in consideration, which will help with the destruction that we will have to face and endure. STEP System Boring allows for the least amount of soil displacement and is the best way to go.” Fred Collins, Administrator, Northern Chumash Tribal Council. Direct communication with Dr. Mary Fullwood, August 9, 2008.

<sup>xliii</sup> Larry Allen, Executive Director, SLO County Air Pollution Control District. Panel presentation, *Faith, the Environment and You* hosted by Congresswoman Lois Capps at First Presbyterian Church, San Luis Obispo, CA, August 6, 2008.

<sup>xliv</sup> Dana Ripley, *Tech Memo #8: Energy Intensity of Collection and Treatment Alternatives*, Los Osos Wastewater Management Plan Update, July 24, 2006, p. 5.

<sup>xlv</sup> Ibid.

<sup>xlvi</sup> Dana Ripley stated, “I am now assuming that 95% of effluent pumps will be ½ hp. There may be a few isolated instances where a ¾ hp or 1 hp pump may be needed for larger STEP tanks. Email correspondence with Dr. Mary Fullwood, August 19, 2008.

<sup>xlvii</sup> National Water Research Institute (NWRI) *Final Report of the Independent Advisory Panel on Reviewing the Los Osos Wastewater Management Plan Update*, December 4, 2006, Section 3.2.7, p. 5.

<sup>xlviii</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 5-4, Table 5.1; and, LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4.

<sup>xlix</sup> Dana Ripley, CEO, Ripley Pacific Company. Email correspondence with Dr. Mary Fullwood, August 26, 2008.

<sup>1</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, pp., 3-25 & 3-26.

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- <sup>li</sup> Ronald Crites and George Tchobanogous, *Small and Decentralized Management Systems*. New York: McGraw-Hill, 1998, p. 8.
- <sup>lii</sup> Dana Ripley, CEO, Ripley Pacific Company. Email correspondence with Dr. Mary Fullwood, August 29, 2008.
- <sup>liii</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, 1-9.
- <sup>liv</sup> Ronald Crites and George Tchobanogous, *Small and Decentralized Management Systems*. New York: McGraw-Hill, 1998, p. 8.
- <sup>lv</sup> See <http://www.wwdmag.com/Self-performed-Dewatering-Enhances-California-Sewer-Line-Project-article2339>
- <sup>lvi</sup> Larry Allen has stated, “20% of energy use in California is water pumping. Water conservation reduces pumping.” Larry Allen, Executive Director, SLO County Air Pollution Control District. Panel presentation, *Faith, the Environment and You* hosted by Congresswoman Lois Capps at First Presbyterian Church, San Luis Obispo, CA, August 6, 2008.
- <sup>lvii</sup> Ronald Crites and George Tchobanogous, *Small and Decentralized Management Systems*. New York: McGraw-Hill, 1998, p. 8.
- <sup>lviii</sup> “Summary for Policymakers.” *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Intergovernmental Panel on Climate Change (2007-02-05).
- <sup>lix</sup> Dana Ripley, Ripley Pacific Company. Email correspondence with Dr. Mary Fullwood, August 7, 2008.
- <sup>lx</sup> Bill Cagle, National Accounts, Orenco Systems Inc. Personal email correspondence, August 15, 2008.
- <sup>lxi</sup> See [www.eosenvironmental.com](http://www.eosenvironmental.com)
- <sup>lxii</sup> Greg Dolan, Vice President, Methanol Institute. Exchange with Bill Cagle, National Accounts, Orenco Systems, Inc., July 7, 2008. See [www.methanol.org](http://www.methanol.org)
- <sup>lxiii</sup> LOWWP Technical Memorandum, “Projects Alternatives Greenhouse Gas Emissions Inventory, June 2008, p. 14.
- <sup>lxiv</sup> John Kellerman, Plant Manager, California Men’s Colony Wastewater Treatment Plant. Scheduled tour for SLB Surfrider and SL Sierra Club, March 7, 2008.
- <sup>lxv</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 5-4, Table 5.1.
- <sup>lxvi</sup> See Table 3.1, SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007.
- <sup>lxvii</sup> <http://www.sanluisobispo.com/news/local/story/260066.html>
- <sup>lxviii</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 5-4, Table 5.1.
- <sup>lxix</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 3. Note: if conventional gravity is selected, we favor treatment Ponds over the other treatment options, e.g., Oxidation Ditch, MBR.
- <sup>lxx</sup> SLB Surfrider and SL Sierra Club CMC Sewer Tour lead by John Kellerman, Plant Manager, March 7, 2008.
- <sup>lxxi</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4.
- <sup>lxxii</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, pp. 3-8 and 3-9.
- <sup>lxxiii</sup> LOWWP Technical Advisory Committee *Pro/Con Analysis on Project Component Alternatives*, August 6, 2007, p. 4. SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 3-27.
- <sup>lxxiv</sup> Rob Miller, Principal Engineer, Wallace Group and Vice Chair, LOWWP Technical Advisory Committee. Personal communication with Dr. Mary Fullwood, August 8, 2008.

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- <sup>lxxv</sup> For further elaboration on the tri-metrics of Sustainability see, for example, Assemblyman Sam Blakeslee, “Redefining the Rules and Roles of Environmental Politics”, *Santa Lucian*, July/Aug. 2008 (p. 9). <http://santalucia.sierraclub.org/lucian/lucian.html>.
- <sup>lxxvi</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, pp. 3-23 and 3-24, Tables 3.17 and 3.18, and, p. 7-8, Table 7.4.
- <sup>lxxvii</sup> Jonathan Todd, CEO, John Todd Ecological Design, Inc. Email correspondence with Dr. Mary Fullwood, August 7, 2008.
- <sup>lxxviii</sup> For single family units, the grinder pumps would be 2 hp, for larger commercial properties, grinder pumps would be 5 hp and up. Dana Ripley, Ripley Pacific Company. Email correspondence with Dr. Mary Fullwood, August 25, 2008.
- <sup>lxxix</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 5-4, Table 5.1.
- <sup>lxxx</sup> See [www.eosenvirnmental.com](http://www.eosenvirnmental.com)
- <sup>lxxxii</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, p. 1-9.
- <sup>lxxxiii</sup> Ibid., p. 5-4, Table 5.1.
- <sup>lxxxiii</sup> Larry Allen, Executive Director, SLO County Air Pollution Control District. Panel presentation, *Faith, the Environment and You* hosted by Congresswoman Lois Capps at First Presbyterian Church, San Luis Obispo, CA, August 6, 2008.
- <sup>lxxxiv</sup> SLO County LOWWP *Viable Project Alternatives Fine Screening Analysis* August 2007, pp. 3-23 and 3-24, Tables 3.17 and 3.18. Dana Ripley noted the STEP design for the LOWWP is 15-20% complete and believes the costs of a STEP/STEG system remain comparable to those listed in the 2006 LOCSO *Los Osos Wastewater Management Plan Update*, p. 9. Dana Ripley, Ripley Pacific Company. Email correspondence with Dr. Mary Fullwood, August 25, 2008.
- <sup>lxxxv</sup> Fred Collins, Administrator, Northern Chumash Tribal Council statement submitted to the SLO County Board of Supervisors and LOWWP Project Team, June 19, 2007.

## **Heavy Metals in Composted Sewage Sludge & Agricultural Soil**

While the compost produced using the sewage sludge generated at the Morro Bay sewage plant compares favorably with the so-called "EQ" heavy metal limits set by federal, state and SLO County land application regulations; a comparison with background soil concentrations demonstrates that the Morro Bay composted sewage sludge contains concentrations of some heavy metals significantly exceeding the average concentrations found in uncontaminated agricultural soils in California.

As displayed by the table below, the Morro Bay compost concentration of:  
 Cadmium is 10.3 times that of soil.                      Selenium could be 94.8 times that of soil.  
 Copper is 15.7 times that of soil.                      Zinc is 6.9 times that of soil.  
 Molybdenum is 10.3 times that of soil.

The continued unregulated land application of this material will result in the accumulation of these, and other contaminants concentrated in sewage sludge, in local soils. SLO County does not regulate this activity now.

Comparison of Heavy Metal Concentrations in  
 Morro Bay Composted Sewage Sludge with  
 Average Soil Concentrations in Uncontaminated California Agricultural Soils  
 and Concentration Limits of SLO County Interim Moratorium Ordinance  
 (in mg/kg = ppm)

Heavy Metal	Morro Bay Compost *	<b>Multiple of Soil</b>	Soil Average (158)	Int Morat Limit (EQ)
Arsenic	2.6	0.7	3.5	41
<b>Cadmium</b>	3.7	<b>10.3</b>	0.36	39
Chromium	50.9	0.4	122	1200
<b>Copper</b>	451.9	<b>15.7</b>	28.7	1500
Lead	33.0	1.4	23.9	300
Mercury	0.27	1	0.26	17
<b>Molybdenum</b>	13.4	<b>10.3</b>	1.3	75
Nickel	32.1	0.6	57	420
<b>Selenium</b>	<5.5**	<b>94.8</b>	0.058	36
<b>Zinc</b>	1031	<b>6.9</b>	149	2800

\* Exceptional Quality Biosolids Certification, City of Morro Bay – Cayucos Wastewater Treatment Plant, 10-29-08. 503 Metals Analysis Report, A & L Western Agricultural Laboratories, Inc., 9-10-08.

\*\* BDL – Below Detection Limit for Zinc, i.e., Zinc concentration is below 5.5 ppm.

158. "Background Concentrations of Trace and Major Elements in California Soils" Kearney Foundation Special Report, March 1996. Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California. G.R. Bradford (1), A.C. Chang (1), A.L. Page (1), D. Bakhtar (1), J.A. Frampton (2), and H. Wright (1). (1) Department of Soil and Environmental Sciences, University of California, Riverside. (2) Department of Toxic Substances Control, California Environmental Protection Agency, Sacramento, Ca.

## **The Los Osos Sewer Needs Work**

The Coastal Development Permit for the Los Osos Wastewater Project will make its way to The Planning Commission on April 23 for approval. Before it gets there, the Commissioners should take some time to ponder the following issues:

### **Wasted water**

The County is proposing an effluent “disposal” project at the Tonini Site, the potential treatment plant site furthest from town. The selection of the Tonini site – about ten times larger and five times more expensive than any of the other alternative sites — was driven by the fact that it can accommodate spray fields for the disposal of effluent.

But should it?

California is in year three of a drought approaching biblical proportions. State water officials are calling for 20 percent cut in water use, twice the level of conservation called for in the LOWWP as alleged mitigation for the shut-off of septic flow to the aquifers. The Federal Bureau of Reclamation is unable to deliver irrigation water to more than 200 water districts in the Central Valley. Farmers have begun abandoning fields and destroying orchards. Reservoirs are at 35% of capacity. Los Osos’ water supply is at Level of Severity III. It is against this backdrop that this project proposes to literally blow away treated wastewater in sprayfield disposal.

The solution to that problem is also the key to recharge of the aquifer, and the clearly superior means of effluent disposal, and that is ag exchange – tertiary treated effluent made available to Los Osos Valley growers in exchange for reduced pumping of the lower aquifer.

Golden State Water Co. has already signaled their interest, commenting on the draft EIR: “If the water purveyors were to install tertiary treatment and look for recycled water users, how would they integrate with the County?”

In explaining the guidelines for the disbursement of its \$280 million in federal stimulus funds, the California Clean Water State Revolving Fund states: “To the extent eligible applications are received, federal law requires that not less than 20% of the \$280 million go for green infrastructure, water or energy efficiency improvements or other environmentally innovative activities.”

The county needs to understand what the state revolving fund is telling it, and adapt accordingly: The edge is going to go to green projects, not plain vanilla projects that show a distinct lack of “environmentally innovative activities.” If we proceed with secondary treatment of effluent instead of tertiary, disposal instead of reclamation, and a collection system that does not take full advantage of opportunities for Low Impact Development, this will be a non-competitive project. There will be no points given for tossing away a major portion of the septic flow, channeling the rest from widely dispersed leachfields into a single disposal site, and proclaiming that the county is so supremely confident in its knowledge of the interactions of the various aquifers -- and how much flows into which ones from where -- that these actions will have no adverse affect on the water balance.

### **STEP v. Gravity**

Of the two collection systems the EIR evaluated in depth, we note the following: Gravity sewer pipes are laid in trenches that can be more than twenty feet deep; STEP/STEG pipes are generally laid via directional boring, or in shallow trenches no more than three feet underground. The Regional Water Board spotted the attempt by the Draft EIR to glide over this difference, commenting: “The DEIR does not describe the trenching or boring depths needed for implementation of the STEP/STEG system described in Proposed Project Alternative No. 1. ... We understand that shallower trenching may result in lesser environmental impacts (i.e., ground disturbance, dewatering, etc.) The County should expand on their environmental impact evaluations regarding trenching associated with the installation of the STEP/STEG system as described in Proposed Project Alternative No. I. This description should discuss potential environmental impacts associated with dewatering activities as a result of deeper versus shallower trenching.”

A similar question to ask: Will the necessity of regular flushing of the pipes of a gravity system cancel out the seawater intrusion mitigation of the project’s proposed 10 percent water conservation component?

The County's oft-made claim that a STEP system would mean "less road impacts" than gravity, which would involve "longer street closures," seems to strain to avoid stating just how *much* less impact there would be, or that the difference is more akin to "on" and "off," not "less" and "more." In comparison to STEP's most significant on-site impact — tank installation will mean more yard re-sodding and begonia replacement — laying gravity sewer pipes means street closures and residents finding somewhere else to park their cars and some other way to get to work. STEP's trenchless directional boring installation is generally more cost effective than cutting roads, so road closures are not necessary and construction activities can be conducted without impeding the travel lanes. At worst, traffic would be reduced to a single lane.

Ideally, a gravity sewer conveys sewage from a higher elevation at the source to a lower elevation at the treatment plant. Elevations in Los Osos are the opposite of that ideal – lower around the estuary, higher east of town. The high water table affects both the capital cost and environmental impacts of gravity sewer dewatering – the pumping out and disposal

of significant amounts of groundwater before you can lay big gravity pipes — and O&M costs through the infiltration of groundwater into the pipes and the efforts to prevent it.

The County's claims of high STEP operation and maintenance costs need some close examination. When South Alabama Utilities was contemplating construction of a STEP system, they checked out other communities that had opted for STEP. "I was impressed with the longevity of the systems and by how little maintenance they needed," the SAU consulting engineer reported. "I talked with one guy and he was like the Maytag repairman; he got maybe two calls a year."

When we get hit with the actuarial likelihood of a major quake within the operational lifetime of whatever system we choose, the fused, flexible STEP pipes are likely to bend. Rigid, large-diameter gravity pipes, laid in sandy soil, are likely to separate. We will be cleaning up that disaster for decades. We will be back where we are now, only worse, and more than a hundred million dollars poorer. This is not environmentally preferable.

According to the Draft Environmental Impact Report, a STEP system would produce about 70% less sludge and consume 75,000 fewer kilowatt hours of energy per year compared to a gravity system – two benefits of many. See "Key Environmental Issues for Los Osos Wastewater Treatment Project" at [www.santalucia.sierraclub.org](http://www.santalucia.sierraclub.org).

### **The Broderson Site**

The success of the system depends on disposal of effluent on an eight-acre portion of the Broderson site and the recharge of the lower aquifer as the effluent makes its way through the site's Baywood fine sands. The combination of this soil type and soil pore-clogging, pathogen-laden secondary treated effluent is not promising. Under CEQA, an agency should not approve a proposed project if a feasible alternative or mitigation measures are available that would reduce the significant environmental impacts of the project. With the opportunity to move aggressively toward ag exchange — which would achieve A) significantly more mitigation for seawater intrusion, B) reduced pumping of the lower aquifer, C) a reduced requirement for the removal of nitrates from effluent, D) reduced use of fertilizers by local growers and therefore E) reduced nitrate runoff into creeks — the County instead proposes to put all its recharge eggs in Broderson's basket, which has none of these ancillary benefits. They hope it works. If it does not, the County will write off a multi-million dollar stranded asset and *then* start thinking about ag exchange.

Broderson disposal, at best, is not likely to do more than maintain the current level of seawater intrusion; even combined with the project's anemic proposed 10% conservation goals, this would not halt or reverse the destruction of the lower aquifer. Instead of reliance on Broderson, ag exchange, combined with the aggressive 20% household water conservation measures now being urged by the California Dept. of Water Resources, would achieve that. Yet this mitigation measure was not analyzed or included as a feasible alternative in the draft EIR.

### **The EIR**

If there is one problem that can be said to incorporate all the other problems in this problematic document, it is weighting. The Commission needs to evaluate the relative magnitude of the various potential environmental impacts attributed to the project components – such as the impacts of gravity trenches up to twenty feet deep and significant dewatering compared to the impact of replacing an existing tank in a previously excavated yard.

The fact that those trenches must maintain grade has resulted in the County's proposal to halt trenching and convert to directional boring every time a sensitive site is encountered. Los Osos has almost as much in the way of archaeological and culturally sensitive sites as it has environmentally sensitive habitat areas. A proposed trenching-to-boring "adjustment" every time such a site is encountered — which will occur many times — is not reflected in the EIR's estimated cost of a gravity system.

Also missing from the EIR — somewhat more forgivably, as it has only been hitting the headlines in truly dramatic fashion in the last few weeks — is the rise in sea level due to global climate change, dramatically greater than previously believed. A state study released on March 11, the most comprehensive analysis of climate change impacts on the California coast ever undertaken, concluded that the ocean will rise five feet along the length of our coastline by the end of the century. "Regional planners are recommending that some new construction be halted, other properties protected and still others abandoned," reported the *San Francisco Chronicle*. On March 12, the *L.A. Times* reported that California's interagency Climate Action Team is considering several proposals in response, including "limit coastal development in areas at risk from sea rise; consider phased abandonment of certain areas; halt federally subsidized insurance for property likely to be inundated; and require coastal structures to be built to adapt to climate change."

This is not good news for a proposed gravity system which includes about half a dozen pumps on the shore of the Morro Bay estuary. If saltwater enters a sewer pipes, it can destroy both the collection system and the treatment plant. The Planning Commission needs to ask the LOWWP team some serious questions about this, and about the level of seriousness at which the EIR addressed these climate change impacts on this project; a level that needs to be raised to the level at which California is now addressing these impacts statewide.

#### **The Tri-W site**

Directly from the Technical Advisory Committee's Pro/Con Analysis:

" - *Small acreage and location in center of town required most expensive treatment and higher costs overall*

" - *Limited flexibility for future expansion, upgrades, or alternative energy*

" - *Greater risk associated with system failure due to proximity to Bay*

" - *Greatest distance to spray fields and ag reuse*

" - *It was the unanimous opinion of the NWRI that an out of town site is better due to problematic issues with the downtown site...."*

...etc.

We hope the Planning Commission will see the need to make changes in this project. The funds allocated for purchase of the dubious Broderon disposal site and the exceedingly large Tonini property as the treatment plant site — an added expense, proposed to accommodate those wasteful sprayfields — should go instead to the purchase of a site that need only accommodate a treatment plant and adequate storage ponds, fund the cost of a tertiary level of treatment -- making ag exchange possible .

Any excess temporary irrigation necessary off-basin could be accomplished on large tracts of currently dry-farmed ag land — about 400 acres that would more than welcome all effluent available on a year-to-year basis while a program of full on-basin exchange is established.

#### **To sum up**

\* A deepening statewide drought is the worst possible timing for a wastewater treatment project that proposes to dispose of a large portion of treated effluent and only start getting around to reclamation and re-use at an unspecified later date. The design/construction window for the Los Osos Wastewater Project is sufficient time to undertake contract negotiations with local growers so as to at least begin phased ag exchange upon completion of the project and assure maximum mitigation of seawater intrusion. This will also make the LOWWP eligible for state water bond money.

\* The SLO County Farm Bureau and local environmental organizations — not usually known for agreement on land use issues — are unanimous on the undesirability of the proposed Tonini site: vastly larger and more expensive than any of the alternative sites, meaning a significant loss of prime ag land, in order to accommodate water-wasting spray field disposal. The better option is to save that money and spend it on tertiary treatment, inside the basin, thereby expediting ag exchange as quickly as possible.

\* The environmental impacts of the deep trenching and dewatering required for a gravity collection system need a closer look, per the RWQCB.

\* “Greener” does not equal “more expensive.” Making the project more sustainable can actually reduce the cost of the project, as with bond funding available for the inclusion of water reclamation and 100% grant-funded infiltrative bioswales, incorporated with and underwriting the cost of the excavation of sewer laterals. (Check out [www.lowimpactdevel-opment.org/greenstreets](http://www.lowimpactdevel-opment.org/greenstreets) and the article at right.)

In a February 23 letter to Public Works Director Paavo Ogren, Regional Water Quality Control Board Executive Officer Roger Briggs wrote: “I ask that you continue to give overall watershed health, including water balances that repel seawater intrusion, the priority that it deserves as you make project recommendations to the Board of Supervisors.”

The County’s status as lead agency on this project was created by AB 2701. Of the County’s mandate to build a wastewater treatment project, AB 2701 states: “These efforts may include programs and projects for recharging aquifers, preventing saltwater intrusion, and managing groundwater resources to the extent that they are related to the construction and operation of the community wastewater collection and treatment system.”

We read that, and urge the Planning Commission to read it, as the legislature letting the county know that it is free to include these elements in the project. This was the intent of the legislature, which specifically put recharging the aquifer and managing groundwater within the scope of the measure authorizing the wastewater project. This can — and must— be part of this project.

**“...in addition to lower excavation costs, [STEG] systems also can help communities save on final wastewater treatment costs, because the solids and grease in wastewater are separated and treated in septic tanks. Therefore, the need for headworks is reduced in the final treatment facility, because screening and grit removal is not necessary.... Communities do not have the burden of removing, treating, and disposing of sludge after final treatment. Instead septage can be removed less expensively from septic tanks at regularly scheduled intervals.”**

- *Small Flows Quarterly*, Spring 2001, Vol. 1, No. 2

Captions:

**Pretty obvious:** *We direct the Planning Commission’s attention to the Technical Advisory Committee’s August 2007 Pro-Con Analysis of Project Component Alternatives. This page lists the pros and cons for each prospective treatment plant site. Its most striking feature: The box allotted for listing the “cons” for the Giocamazzi site. There aren’t any.*

**Required reading:** *The 2006 Los Osos Wastewater Management Plan Up-date included Technical Memo 7, “Los Osos Growers’ Field Trips to the Monterey Area.” During their tour of the Monterey Regional Water Pollution Control Agency facilities, local growers learned that the MRWPCA has “95% voluntary participation of growers irrigating with recycled water, and more recycled water would be used if recycled water was available for 100% of their needs.” Seawater intrusion was “the driving force for implementing the water recycling program.”*

Sidebar:

## **Green Streets Improve Water Quality and Beautify Cities**

*by Celia Scott and Debbie Bulger  
Ventana Chapter*

How a coastal city deals with storm-water runoff has a major effect on the health of the bay or ocean the city faces.

City runoff is laden with gasoline, oil, tire dust and other pollutants from our streets. Because water runs downhill, urban runoff which is not properly managed will pollute all the water bodies that receive it. On the Central Coast, that runoff ends up in our creeks, our rivers, and the Monterey Bay National Marine Sanctuary.

Portland, Oregon, and Seattle, Washington, are demonstrating to the world there is a better way. These cities, and others across the United States, are designing and building Green Streets which trap stormwater runoff and capture pollutants. Green Streets use landscape-based drainage features such as green planters, curb extensions, swales, and porous paving to mimic the natural hydrologic cycle, control flow, and improve water quality while at the same time beautifying and increasing the safety of streets.

Experience in multiple cities across the U.S. has shown that Green Streets can be more cost-efficient in managing urban stormwater runoff than the usual “gray” infrastructure of concrete gutters and storm drains. Cities that have constructed Green Street structures include Milwaukee, Philadelphia, and Chicago, in addition to Portland, Seattle, and others.

In April 2007, the Portland City Council approved a Green Street policy in order to:

- Reduce polluted stormwater entering Portland’s rivers and streams,
- Improve pedestrian and bicycle safety,
- Divert stormwater from the sewer system and reduce basement flooding and sewer backups,
- Reduce impervious surface so stormwater can recharge groundwater,
- Increase urban green space,
- Improve air quality and reduce air temperatures,
- Address federal and state requirements to protect watersheds, and
- Increase opportunities for industry professionals.

2009 APR 21 11:10:21 AM  
PLANNING & BUILDING  
DEPT

April 19, 2009

County of San Luis Obispo  
Planning & Building Dept.  
976 Osos St., Room 300  
San Luis Obispo, CA 93408

Re: Los Osos Sewer Project

I'm in favor of the Tonini site for the sewer project. There will always be concerns no matter which location is chosen, but in my view the selection of the Tonini site would be preferable to other sites.

As a Los Osos homeowner, I would like to see the County go ahead with the Tonini site and get started building the sewer facilities as soon as possible.

Thank you,



Helen Barreto

489 Los Osos Valley Rd.  
Los Osos, CA 93402

April 20, 2009

2009 APR 21 AM 10:21  
COUNTY OF SAN LUIS OBISPO  
PLANNING & BUILDING  
DEPT

County of San Luis Obispo  
Planning & Building Dept  
976 Osos St. Room 300  
San Luis Obispo, CA 93408

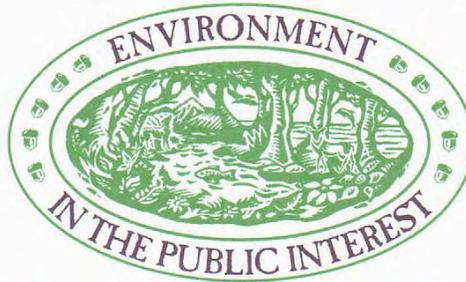
I am in favor of the Tonini site for the hybrid sewer system.

The outflow of heavy metals from drugs, etc., into waterways and the environmental impact to our health as well as that of vegetation and wildlife, should remain at the forefront of our county concerns and priorities.

One other thought, the consideration of under-grounding utilities and broadband in combination with the sewer project as part of the stimulus: Would it qualify?



Dora Barreto  
489 Los Osos Valley Road  
Los Osos, CA 93402



EPI-Center, 1013 Monterey Street, Suite 202 San Luis Obispo, CA 93401  
Phone: 805-781-9932 • Fax: 805-781-9384

## San Luis Obispo **COASTKEEPER**<sup>®</sup>

County of San Luis Obispo  
Planning Commission  
Sarah Christie, Chair  
County Government Center  
San Luis Obispo, CA 93408

April 20, 2009

VIA EMAIL (Original Hand Delivered)

**Subject:** Los Osos Wastewater Project Final EIR and Development Plan (Proposed)

**COASTKEEPER Position:** Oppose.

Dear Chair Christie and Honorable Commissioners,

Thank you for the opportunity to comment on the County's proposed EIR and Coastal Development plan for the Los Osos Wastewater Project (County File DRC2008-00103).

San Luis Obispo **COASTKEEPER**<sup>®</sup>, a program of Environment in the Public Interest, is organized for the purpose of ensuring that the public has a voice with agencies and official responsible for enforcing water quality, watershed protection, and environmental regulations. As such, SLO Coastkeeper and our 800 Central Coast supporters are concerned that:

1. The significant impacts to Agricultural lands identified in the proposed EIR are avoidable.

The spray field technique proposed by Staff as the effluent disposal/discharge component appears to be the key issue driving the need for agricultural properties of the size targeted for the proposed project. This choice appears to be based on an incorrect analysis that the in-town disposal component designed for the previously permitted LOSCD project of 2001 was inadequate. That system was designed and permitted to discharge a maximum of 1.675 million gallons per day (see p 20 of the attached 2003 "Addendum to the Final EIR for the Los Osos Wastewater Project").

This system was fully reviewed and approved by the all permitting agencies, including the



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California Coastal Commission. Clearly a feasible project alternative that avoids/lessens impacts to Agricultural Resources exists and is more consistent with the County Certified LCP.

2. The proposed EIR is deficient under CEQA guidelines and the Certified Local Coastal Program.

CEQA Guidelines section 15126.6 requires that:

“An EIR shall describe a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” 15126.6(a)

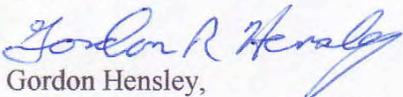
Section 15126.6(b) gives further guidance on an adequate consideration and discussion of alternatives:

“Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.”

In 2001 an EIR for a community-wide wastewater project in Los Osos was certified, fully funded, subsequently acquired all necessary permits and began construction in 2005.

The failure to consider a project alternative that is less impactful renders any analysis under either CEQA or NEPA defective.

Respectfully Submitted,

  
Gordon Hensley,  
San Luis Obispo COASTKEEPER®



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May, 2003

## Memorandum

TO: Bruce Buel, General Manager  
Los Osos Community Services District

FROM: Dave Moran, Chris Clark  
Crawford Multari & Clark Associates

SUBJECT: Addendum to Final EIR for the Los Osos Wastewater Project

Bruce,

The following addendum to the Final EIR has been prepared to address refinements of the project description arising from the design efforts that have occurred since March of 2001. Section 15164 of the State CEQA Guidelines states:

“The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR have occurred.”

Accordingly, the decision to prepare this addendum is based on the following:

- The refinements to the project do not require substantial revisions of the previous EIR due to the involvement of new significant environmental effects;
- The environmental circumstances under which the project is being undertaken have not changed;
- There has been no new information raised regarding additional environmental concerns which were not addressed by the previously certified EIR for the Los Osos Wastewater Project;

The entire Wastewater Facilities Project will be subject to all the mitigation measures adopted with the certified final EIR, which are incorporated by reference. For each of the project revisions and refinements we have provided, where relevant, a brief discussion of the associated environmental considerations and how they are addressed by the Final EIR.

## Project Revisions (From November 2000 FEIR to April 2003)

### General

#### A. Phased Construction

The wastewater project was originally anticipated to be constructed in one phase over an 18 to 24-month period. The wastewater project will now be constructed in two sequential phases over a 36-month period. The Phase I construction will consist of the collection system, pump stations, effluent disposal, and harvest well components in Area A and Area B (see Figure 1); the wastewater treatment facility (WWTF); and the Broderson effluent disposal site and associated disposal main. The Phase II construction will consist of the collection system, pump stations, effluent disposal, and harvest well components in Area C and Area D (see Figure 1).

The phased construction is desirable for two reasons. First, the extended construction period offers the Los Osos Community Services District (District) greater opportunities to obtain funding (appropriations and grants) from the State and Federal government. Appropriations and grants become available on an annual basis and the longer timeframe provides the District more opportunities to secure these resources. Second, the longer construction period lengthens the timeframe for construction of the lateral connections to individual properties which, in turn, reduces the demand on local construction contractors and makes the connection process more manageable.

**Environmental Considerations.** The description of construction activities and related components is identical to those characterized by the project description in the FEIR. The change in phasing does not introduce new categories of impacts but merely spreads the activities assessed by the FEIR over a longer timeframe. There are a few 'time sensitive' impact categories evaluated by the FEIR:

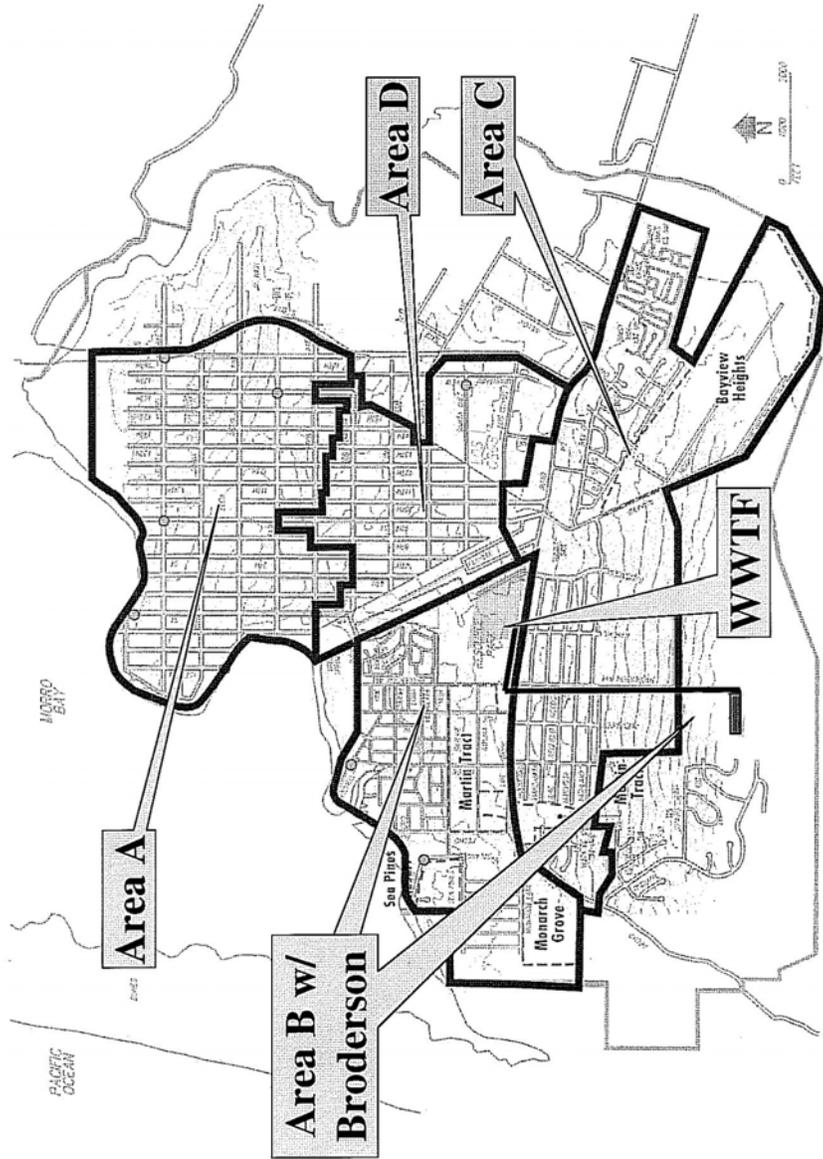
- Traffic disruption during construction
- Construction noise
- Construction-related air quality impacts

In each case the significance of the impacts will not change because the duration the construction activities at a given location (the time actually spent doing the work) does not change. Cumulative impacts will be identical as those assessed by the FEIR. In addition, the majority of the work that will contribute to traffic disruption, construction noise and construction related air quality impacts will be completed in Phase I.

Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

Figure 1: Project Construction Phasing

# Construction Phase I and Phase II



**B. Project Schedule**

The project schedule has been changed by the following factors:

- The start of the final design effort was delayed by litigation against the District to stop the project; and,
- The construction phasing described above.

A comparison of the original schedule and the revised project schedule is presented below.

Description	Original	Revised
<b>DESIGN</b>		
Start Design	Jul 01, 2001	Oct 31, 2002
Complete Design	Jul 15, 2002	Feb 16, 2004
<b>CONSTRUCTION</b>		
Start Construction	Sep 06, 2002	Jun 28, 2004
Complete Construction	Aug 30, 2004	Jun 29, 2007

Environmental Considerations. In each case the significance of the impacts will not change because the duration the construction activities at a given location (the time actually spent doing the work) does not change. In addition, the majority of the work that will contribute to traffic disruption, construction noise and construction related air quality impacts will be completed in Phase I.

Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

**C. Monarch Grove and Sea Pines**

The residential development of Monarch Grove and the Sea Pines Golf Resort (MG/SP) have been added to the service area of the project. Wastewater treatment for MG/SP is currently provided by a package wastewater treatment plant. However, operational difficulties have prompted MG/SP to join the District system and abandon their package plant.

The addition of MG/SP will increase the capacity of the wastewater project by 30,000 gpd. This increase in flow will necessitate the following changes to the proposed wastewater system:

Project Component	Description
Inyo Street (south end)	50 lf of new sewer collection main
Inyo Street (north of Monarch Lane)	300 lf of deeper sewer collection main
Binscarth Road	600 lf of larger diameter sewer collection main
Lupine Pump Station	7 % capacity increase
Lupine Force Main	None
WWTF	2 % capacity increase
Disposal main to Sea Pines	2300 lf extension
Effluent disposal site	Full-time 30,000 gpd disposal at Sea Pines

### Environmental Considerations

**Collection Mains.** The FEIR project description assumed approximately 204,000 linear feet of sewer mains would be constructed for the collection system. The additional 950 feet associated with serving Sea Pines and Monarch Grove would increase this estimate by a fraction (about 0.5%), which is considered a technical refinement of the project whose impacts are considered not significant. The 204,000 linear foot estimate provided in the FEIR has a margin for error that is greater than the 950 additional feet associated with serving these areas. In addition, collection system construction impacts are addressed by the following mitigation measures:

GEO-1, GEO-2, H-1, C-1, C-2, TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1

**Lupine Pump Station Capacity.** The proposed increase in capacity to service Monarch Grove and Sea Pines may require a slightly larger pump for the Lupine Avenue pump station. The increased capacity would increase the demand for electricity by a fraction over the original project description. Impacts to energy demand are addressed by mitigation PS-2. This is considered a minor technical change to the project and will not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts.

**Treatment Plant Capacity.** The project description from the FEIR assumed the treatment plant would be designed to treat an average dry weather flow of 1.365 mgd and a buildout population within the Prohibition Zone of 17,963 (18,428 when the residential capacity of commercial areas is included). Adding Monarch Grove and Sea Pines would increase the required treatment by 30,000 gpd (about 2%) and the population served by about 375 residents. Impacts to the groundwater basin associated with the increased capacity of the Treatment Plant are offset by the abandonment of the sewer package plant currently serving Monarch Grove and Sea Pines which currently treats and disposes 30,000 gpd into the upper aquifer.

The additional treatment plant capacity will require a slight increase in the size of tanks, pumps, and equipment that is well within the parameters of the conceptual design presented in the FEIR. All of the changes will be housed within the existing footprint of the plant which will be underground and completely odor scrubbed.

**Disposal Main and Sea Pines.** The FEIR does not quantify the length of disposal mains. Nonetheless, the additional 2,300 linear feet of disposal main necessary to convey treated effluent to Sea Pines would result in the same impacts as those discussed in the FEIR and mitigated by the following mitigation measures:

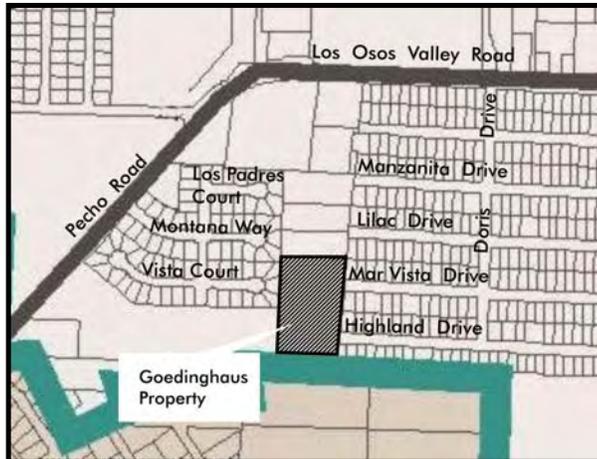
GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

With regard to the impact on groundwater levels resulting from the 30,000 gpd disposal on the Sea Pines site, this disposal is equal to effluent currently treated by the Monarch Grove package treatment plant which is disposed into the upper aquifer. Therefore the amount of treated effluent disposed of in the upper aquifer will be the same once this effluent is treated by the Wastewater Treatment Plant and conveyed to the Sea Pines golf course for disposal. There are no new impacts related to this disposal that have not already been analyzed in the

FEIR, nor will this disposal cause a substantial increase on a previously identified significant effect. The treated wastewater will satisfy the discharge requirements set by the Regional Water Quality Control Board for the wastewater treatment plant.

#### D. Goedinghaus Family Property

The District will annex the Goedinghaus family property at the west end of Highland Drive (see Figure 2). Development of the Goedinghouse property will add 8 single-family residences to the collection area for an equivalent of approximately 2,000 gpd of wastewater flow.



The development of the Goedinghaus property will also include the westerly extension of Highland Drive and Mar Vista Drive with an interconnecting street in the north-south direction. The development will include construction of a sewer main in the new streets that will provide conveyance of wastewater from Highland Drive to the west end of Mar Vista and reduce the amount of sewer main construction as part of the wastewater project. Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

Development of the Goedinghaus Property was approved by the county and was the subject of separate environmental review.

**Environmental Considerations.** This additional wastewater flow associated with development of the Goedinghaus property will have a negligible impact on the wastewater system and does not result in a major revision to the project. (See discussion under Monarch Grove/Sea Pines, above)

#### E. Decommissioning Septic Tanks

The decommissioning of septic tanks in accordance with Code requirements was identified in the FEIR. The cleaning and reuse of septic tanks and their associated leachfield for percolation of rainwater runoff from private residences is under consideration and may be allowed by San Luis Obispo County.

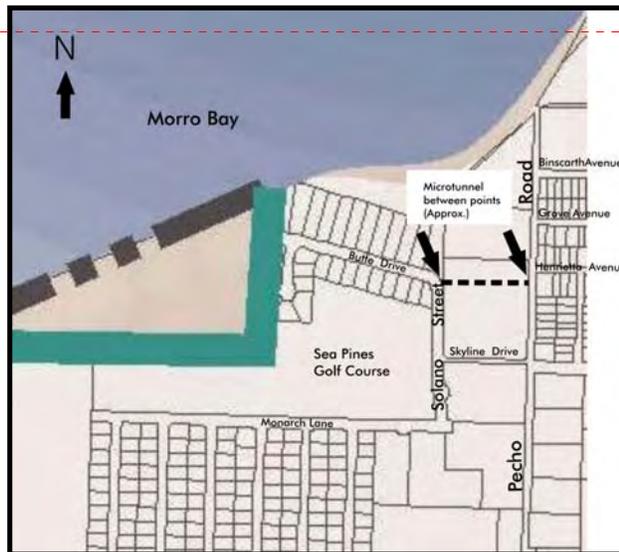
**Environmental Considerations.** This is not a required component of the Wastewater Facilities Project. If the County wishes to consider this in the future, the County would prepare separate environmental review in accordance with CEQA. However, should the county consider this reuse after the tanks are decommissioned or cleaned in conformity with code requirements, it would not result in significant impacts because rainwater drainage is an existing condition and detention of the run off on site would have no effect on the Wastewater system. It could, however, have a beneficial impact on area drainage.

## Collection System

Impacts associated with the construction of the wastewater collection system, including the collection mains, laterals, pump stations and grinder pumps, are addressed by the FEIR and this addendum.

### F. Solano to Pecho Sewer

A sewer main from the north end of Solano Street to the vicinity of the intersection of Pecho Road and Henrietta Avenue will be constructed, which will allow the elimination of the Solano Pump Station. This sewer main segment will be constructed south of an existing wetland using trenchless technology (e.g. microtunneling) to avoid disruption of the overlying sensitive resources. The pipe would be 5 to 8 feet deep and would connect with a gravity sewer in Pecho Road about 30 feet south of Henrietta Avenue. In this way, the overlying resources will not be impacted.



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#### Environmental Considerations.

The area in question consists of an isolated wetland formed by a subsurface seep. According to Lisa Mangione of the US Army Corps of Engineers (personal communication), sub-surface tunneling that avoids the resource as proposed would not be subject to the permitting authority of the Corps of Engineers in accordance with Section 404 of the Clean Water Act because:

- 1) the area is non-tidal, and
- 2) the area is an isolated wetland and not remotely associated with any defined drainage (ie, a seep), and
- 3) the route to be tunneled does not cross any drainage channels.

Construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

Potential impacts to biological resources are addressed by mitigation measures BIO-1 to BIO-21, inclusive.

Another issue relates to consistency with relevant Coastal Act (Public Resources Code Sections 30000 et seq.) policies that speak to the protection of environmentally sensitive resources. Section 30240 states:

- (a) *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

(b) *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

The proposed micro-tunneling under the resources would be consistent with the protection of the habitat values present between Solano and Pecho Roads.

Section 30255 states:

*Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to coastal-dependent uses they support.*

The proposed sewer lines is not a coastal-dependent use and will not be located within a wetland but will be tunneled under it.

Section 30233(a) of the Coastal Act states:

*The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible<sup>24</sup> less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake or outfall lines.*
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (7) Restoration purposes.*
- (8) Nature study, aquaculture, or similar resource dependent activities.*

The proposed activity involves tunneling under and adjacent to a wetland and does not involve diking, dredging or filling.

Section 30233(c) of the Coastal Act further limits development and alteration of wetlands throughout the coastal zone, stating:

*In addition to the other provisions of this Section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19<sup>27</sup> coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.*

The placement of a sewer line underground adjacent to the wetland resources would be a public facility and would not involve diking, filling or dredging.

Section 30240 states:

*a)Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

*b)Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat recreation areas.*

The area over which the tunneled pipeline will be placed contains environmentally sensitive habitat. The purpose of tunneling under the resources is to comply with this Section which seeks to protect sensitive resources. The use of the underlying ground is not specifically for a coastal-dependent use (ie, a sewer line). However, the sewer line is necessary to support coastal-dependent uses within the community of Los Osos.

#### G. Binscarth Sewer

The diameter of the sewer main segment installed at Binscarth Road from Pecho Road to Doris Avenue will be increased from 12-inch diameter to 15-inch diameter to accommodate the increase in wastewater flow from the addition of Monarch Grove and Sea Pines Golf Resort as described elsewhere.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. Construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

#### H. Clelland Sewer

The conceptual collection system assessed by the FEIR shows the installation of sewers to the west end of Highland Drive, Mar Vista Drive, Lilac Drive, Manzanita Drive, and Woodland Drive. A sewer main

constructed north from Highland Drive to Los Osos Valley Road is needed to collect the western segments of the above sewers to avoid the installation of excessively deep sewers or pump stations. This sewer main will be installed in the Clelland Avenue right-of-way (ROW).

*Environmental Considerations.* This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. Construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

## Pump Stations

### I. Submersible Pump Stations

Eleven approximate pump station locations were shown on the conceptual collection system presented in the FEIR. Each pump station was expected to have an associated standby power facility. As the design has advanced, of the ten pump stations, the Solano Pump Station has been eliminated as described elsewhere, seven will be submersible pump stations with standby power facilities as described below, and two will be pocket pump stations as described in item J., below.

Seven submersible pump stations have been identified that will be installed with standby power facilities. Five of these pump stations will be relocated from the preliminary locations indicated on the conceptual collection system presented in the FEIR. The preliminary locations were established based on the expected vicinities of pump stations to serve the collection system. The revised locations have been determined based on additional engineering and property acquisition efforts.

A summary of the original and current locations of the seven submersible pump stations is presented below.

Pump Station	Original Location	Revised Location	Characteristics
Lupine (a)	Mitchell Dr. / Doris Av.	Lupine St. / Donna Av.	Vacant lot
West Paso (b)	4 <sup>th</sup> St. / Pismo Av.	3 <sup>rd</sup> St. / Paso Robles Av.	Street right-of-way
Baywood (b)	1st St. (South end)	2 <sup>nd</sup> St. / El Moro Av.	Street right-of-way
East Ysabel (a)	Santa Ysabel Av. / So. Bay Bl.	Santa Ysabel Av. / So. Bay Bl.	Vacant lot used as detention basin
East Paso (a)	Paso Robles Av. / 16 <sup>th</sup> St.	Paso Robles Av. / 18 <sup>th</sup> St.	Separate environmental review was adopted by the CSD Board, March 2003.
Mountain View (a)	Mountain View / Santa Ynez	Mountain View / Santa Ynez	Street right-of-way
Sunny Oaks (a)	Sea Oakes Mobile Home Park	Daisy Hill Mobile Home Park	Within street right-of-way.

(a) Separate standby power

(b) Shared standby power.

A dedicated standby power facility will be located at the Lupine, East Ysabel, East Paso, Mountain View, and Sunny Oaks Pump Stations that will be located on individual parcels owned or acquired by the District. A single standby power facility located at the District's 3<sup>rd</sup> St. well between Paso Robles Avenue and El Moro Avenue will be shared by the West Paso and Baywood Pump Stations that will be located in street ROW.

**Environmental Considerations.** The project description in the FEIR assumed 11 pump stations. The use of standby power would be temporary and very intermittent and would fall well below the significance thresholds for air quality and noise impacts. One of the pump station locations (at Paso Robles Avenue and 18<sup>th</sup> Street) lies within 1000 feet of a school, which would require an APCD, permit and school notification for diesel emissions in such proximity. For these reasons, this site will employ natural gas to power the pump. With regard to noise, the generators will be housed and muffled and, since they would be operated infrequently and

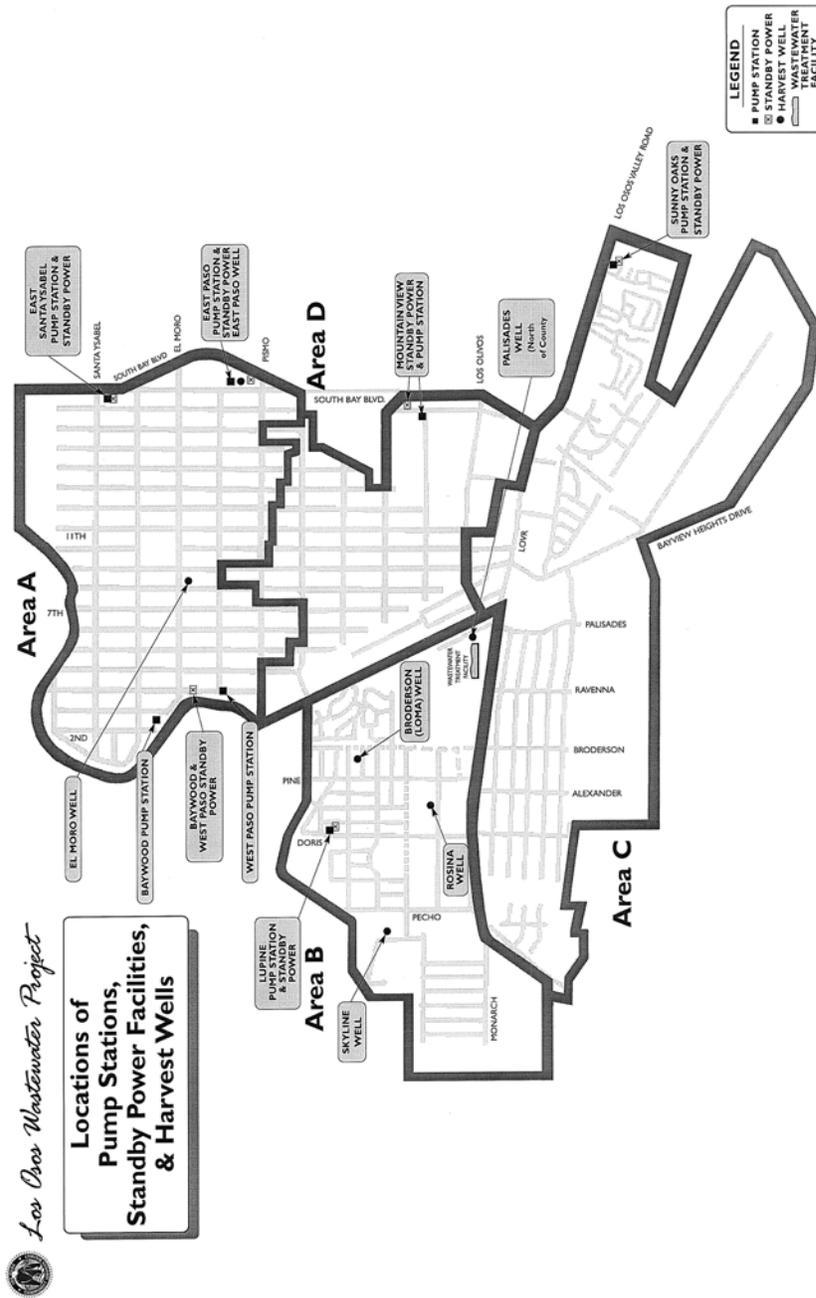
temporarily, noise impacts are considered less than significant. Potential impacts to sensitive biological resources are addressed by mitigation measures BIO-1 through BIO-21, inclusive.

With regard to the Lupine/Donna Avenue pump station and stand-by power, an investigation prepared by the Morro Group (see attached) indicates wetland plant species occur some 80 feet south of the proposed pump station location. Section 23.07.172(d) of the County's Local Coastal Program requires a minimum 100 feet separation of development from wetlands. Under Section 23.07.172(d)(2) the minimum setback may be adjusted through a Minor Use Permit provided that the following findings can be made:

- i. *The site would be physically unusable for the principle permitted use unless the setback is reduced.*
- ii. *The reduction is the minimum that would enable a principle permitted use to be established on the site after all practical design modifications have been considered.*
- iii. *That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to Section 23.04.118a of this title.*

The CSD has included an application for the setback reduction in the Coastal Development Permit application submitted to the County.

Figure 3: Tentative Pump Station Locations



### J. Pocket Pump Stations

The refined project description includes at least two 'pocket' pump stations. Another 10 candidate pocket pump station locations have been identified for a total of 12 potential pocket pump station locations.

Pocket pump stations are small units similar in size and construction to a conventional pump station that serve up to approximately 50 properties. Each pocket pump station will be housed in a vault of 8-12 feet in diameter and will be located within street rights-of-way at a depth of between 8 feet to 20 feet. The pocket pump stations will be installed with extra-large wet wells that will provide 12 hours storage of average day wastewater flow to avoid the installation of standby power facilities. If an electrical power outage were sustained for a period greater than 12 hours, the pocket pump stations could be drained with the use of trailer mounted engine-generators or trailer-mounted pumps.

The pocket pump stations will also minimize the number of grinder pumps to be installed by private property owners. If pocket pump stations are not installed, the likely alternative approach would be to install a low pressure sewer system. A low pressure sewer system would require the installation of grinder pumps for all tributary properties which adds to the construction and maintenance costs for individual property owners. All grinder pumps would discharge into a common pipeline that would convey the wastewater to another point in the collection system where the wastewater can be conveyed by gravity flow.

Environmental Considerations. Impacts associated with pocket pumps construction and operation would be similar to those associated with the pump stations and would be mitigated by the following measures:

GEO-1, GEO-2, TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-2, PS-5, BIO-1

### K. Solano Pump Station

The Solano Pump Station will be eliminated with the construction of the Solano to Pecho sewer main as discussed elsewhere.

Environmental Considerations. This change is consistent with the refinement of the project design during engineering.

## Wastewater Treatment Facility (WWTF)

### L. Revised Site Layout

The WWTF layout presented in the FEIR has been revised in some respects. The treatment processes are the same, but the location and orientation of the buildings housing the treatment processes have been reconfigured as shown on the attached figure. The revised site plan is proposed as a means to improve access, operability, and architectural appearance.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. The revised site plan does not raise any new significant impacts (individually or cumulatively) or impacts that are more severe than those assessed by the FEIR because the footprint of the area devoted to the WWT facilities does not change.

### M. Drainage Facility

The WWTF site receives a substantial amount of off-site stormwater drainage. The portion of the play fields needed to handle the off-site drainage is larger than originally identified in the FEIR. The off-site drainage system will consist of a sedimentation basin to remove trash, debris, and silt from the stormwater. The stormwater will overflow to a 2-acre percolation field that will contain and drain a 100-year storm event. The percolation field will function as a play field for public recreation during dry weather.

**Environmental Considerations.** The play fields were anticipated to provide emergency storage in the event of a major storm as assessed by the FEIR. The use of a larger portion of the play fields for stormwater runoff does not raise any environmental impacts not previously addressed by the FEIR. Drainage and construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

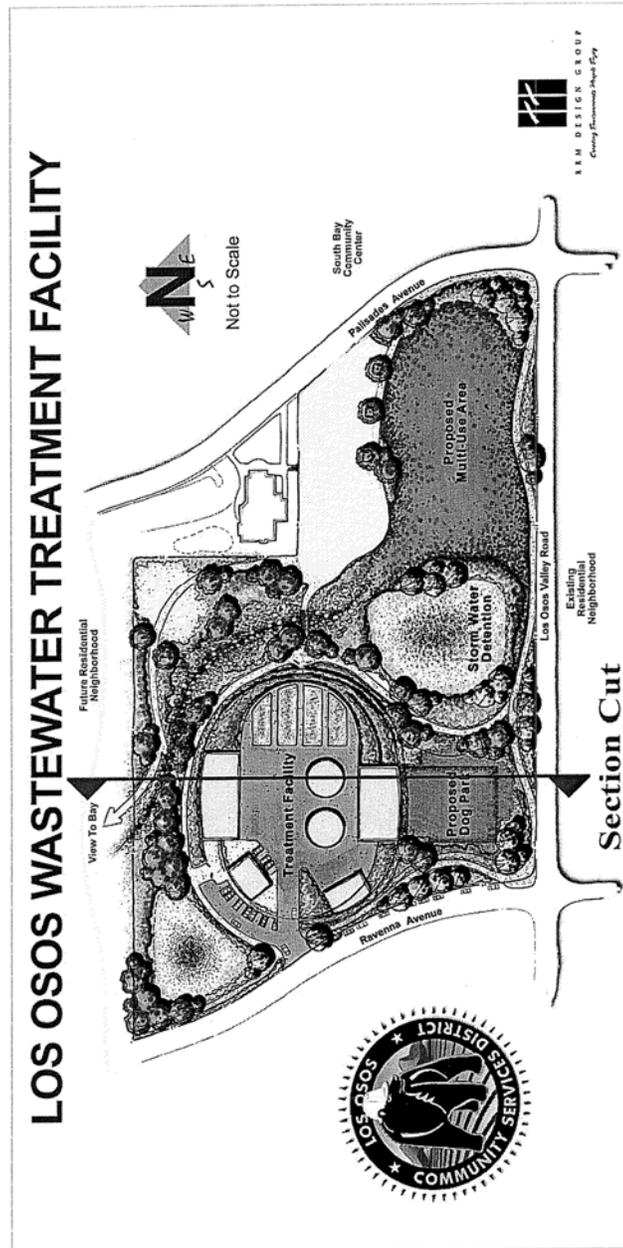
### N. Wastewater Loading

The wastewater loading parameters assumed in the FEIR have been increased to reflect the wastewater characteristics of local wastewater agencies. The original and revised wastewater loading parameters are summarized below.

Parameter	Average Day		Peak Day	
	Original	Revised	Original	Revised
BOD (lb/cap/day)	0.15	0.20	0.19	0.25
TSS (lb/cap/day)	0.15	0.23	0.19	0.29
TKN (lb/cap/day)	NA	0.030	NA	0.038
TN (lb/cap/day)	NA	0.033	NA	0.042

**Environmental Considerations.** These loading parameters are within the loading parameters set for the WWTF and as described in the Project Report.

Figure 4: Revised WWTF Site Plan



#### O. Monarch Grove / Sea Pines Package Plant

The existing Monarch Grove / Sea Pines package wastewater treatment plant will be abandoned with the addition of the Monarch Grove development and the Sea Pines Golf Resort to the wastewater system as discussed elsewhere.

**Environmental Considerations.** The package plant will be abandoned in accordance with State requirements. This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR.

## Effluent Disposal

Each of the following sites has been investigated and no new or more severe environmental impacts have been identified. All of the relevant mitigation measures applied to disposal activities will be applied.

### Q. Sea Pines.

The Sea Pines Golf Resort was identified in the FEIR as a potential site for the use of reclaimed water. The addition of Monarch Grove and Sea Pines as described elsewhere will result in the transfer of 30,000 – 100,000 gpd of effluent to Sea Pines for disposal on a daily basis. Unlike other reclaimed water sites, Sea Pines can accept effluent on a daily basis because of the availability of on-site storage ponds.

*Environmental Considerations.* Effluent will be delivered to the golf course ponds and used for turf irrigation in the same manner that the Monarch Grove / Sea Pines package wastewater treatment plant effluent is currently utilized. This change will not result in additional impacts not envisioned by the FEIR.

### R. Vista de Oro

The Vista de Oro site was identified as an effluent disposal site in the FEIR. The site is an existing leachfield for a community septic tank system which will be converted to an effluent disposal site when the wastewater system is constructed. The site was rated for 25,000 gpd capacity in the FEIR. The site will be re-rated for 20,000 gpd based on the current design criteria.

*Environmental Considerations.* The FEIR assumed 25,000 gpd, so this reduction is consistent with the refinement of the project design during engineering as anticipated by the FEIR.

### S. Los Osos Valley Road/Pine Avenue Site

The Los Osos Valley Road (LOVR) and Pine Avenue site was identified as an effluent disposal site in the FEIR. The use of the LOVR portion of the site is not considered advisable because it would reside in a major traffic corridor.

*Environmental Considerations.* Removing this from the project description will not increase impacts associated with the project.

### T. Broderson Avenue

The use of the Broderson Avenue right-of-way between Los Osos Valley Road and Rosina Avenue was not identified as a disposal site in the FEIR and is now proposed for a 20,000 gallons per day disposal leach field.

*Environmental Considerations.* The use of this right-of-way for disposal leach fields does not raise any new or more severe environmental impacts than those identified in the FEIR.

#### U. Pismo Site

The Pismo Avenue site located between 8<sup>th</sup> Street and 15<sup>th</sup> Street was identified as an effluent disposal site in the FEIR. The site was originally established for 100,000 gpd and has been re-rated to 160,000 gpd. The increased capacity takes into account the design criteria that have been developed for the application of treated effluent by percolation methods that are discussed elsewhere.

**Environmental Considerations.** The use of the existing leach field for disposal would not result in additional impacts. Groundwater mounding has been accounted for by the groundwater modeling performed by Cleath and Associates in the FEIR.

#### V. Santa Maria Avenue Site

The Santa Maria Avenue site located between 13<sup>th</sup> Street and 18<sup>th</sup> Street was identified as an effluent disposal site in the FEIR. The site was originally established for 75,000 gpd. A portion of 18<sup>th</sup> Street from Santa Maria Avenue to El Morro Avenue has been added. The elimination and re-rating of other effluent disposal sites requires that all available effluent disposal sites be utilized. The combined Santa Maria / 18<sup>th</sup> Street site is rated for 160,000 gpd. The increased capacity takes into account the design criteria that has been developed for the application of treated effluent by percolation methods that are discussed elsewhere.

**Environmental Considerations.** Impacts associated with disposal leach field construction was discussed in the FEIR and will be mitigated by the following mitigation measures:

GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

#### W. 14<sup>th</sup> Street through 17<sup>th</sup> Street Sites

The 14<sup>th</sup> Street through 17<sup>th</sup> Street sites located north of Santa Maria Avenue were identified as effluent disposal sites in the FEIR. The use of these sites is not considered viable because of terrain difficulties and will be eliminated as an effluent disposal site.

**Environmental Considerations.** Removing this from the project description will not increase impacts to the project.

#### X. East Ysabel Site

The use of Santa Ysabel Avenue east of Scenic Way for an effluent disposal site will be added. The elimination and re-rating of other effluent disposal sites requires that all available effluent disposal sites be utilized. An addition to this site with extension to the north end of Scenic Way will be included to increase disposal capacity.

**Environmental Considerations.** The addition of this site will not create additional environmental effects not anticipated by the FEIR. Impacts associated with disposal leach field construction was discussed in the FEIR and will be mitigated by the following mitigation measures:

GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

### Y. South Bay Site

The use of South Bay Boulevard north of Santa Ysabel Avenue for an effluent disposal site will be added. The elimination and re-rating of other effluent disposal sites requires that all available effluent disposal sites be utilized.

**Environmental Considerations.** Impacts associated with disposal leach field construction was discussed in the FEIR and will be mitigated by the following mitigation measures:

GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

**Disposal Site Summary.** The revisions to the effluent disposal sites as discussed elsewhere are summarized below.

Description	Original	Revised
Sea Pines	NA	30,000 gpd
Vista de Oro	25,000 gpd	20,000 gpd
Monarch Grove School	70,000 gpd	
LOVR/Pine	50,000 gpd	
Pine		50,000 gpd
Ziebarth Property	75,000 gpd	
Broderson Avenue		40,000 gpd
Broderson	800,000 gpd	800,000 gpd
Pismo Avenue	100,000 gpd	160,000 gpd
Santa Maria Avenue	75,000 gpd	
Santa Maria Av. / 18 <sup>th</sup> Street		160,000 gpd
14 <sup>th</sup> Street thru 17 <sup>th</sup> Street	100,000 gpd	
Los Osos Middle School	Standby	Standby
El Morro Avenue	175,000 gpd	175,000 gpd
East Santa Ysabel Avenue / Scenic		45,000 gpd
South Bay Boulevard		125,000 gpd
Total	1,400,000 gpd	1,675,000 gpd

**Environmental Considerations.** Since the amount of disposal remains largely the same, with the exception of Monarch Grove/Sea Pines, which is merely a trade between the package plant and the WWTP, the changes to the disposal locations are covered by the FEIR. (Cleath and Associates, *Hydrogeologic Investigation of the Broderson Property, Phase I and II, July 2000, Wastewater Disposal Sites Evaluation, October 2001*)

### Z. Disposal Methodology

The use of horizontal perforated drain pipelines was identified in the FEIR as the effluent disposal methodology. The use of vertical disposal wells as an alternative methodology will be used in street ROWs. The vertical disposal wells require less surface area and reduce the potential for interference with underground utilities.

**Environmental Considerations.** A vertical disposal well consists of a 4-foot diameter boring up to 25 feet deep filled with gravel around a vertical 4-inch diameter perforated pipe into which a disposal main will be emptied. The vertical wells will be constructed using an auger which

will drill a 4 foot diameter boring within a casing that will be removed following excavation and the placement of the 4-inch vertical perforated pipe. A single well will have the equivalent capacity of 200 lf of horizontal perforated pipe that would be installed in a 3-foot wide trench. Thus, vertical leach fields offer a number of environmental advantages that include smaller area of surface disturbance, the use of less heavy equipment for construction with resulting reduced air quality and noise impacts.

It should be noted that vertical disposal wells are not injection wells under pressure, but gravity-fed wells where water will percolate to the groundwater. Vertical disposal wells will be designed and installed so that adequate separation will exist between the bottom of the well and the surface of the underlying groundwater. If necessary, the number of wells may be increased to ensure adequate disposal capacity and separation to groundwater. Use of the vertical disposal wells will be managed in a similar fashion as the horizontal leach fields in which the use of the fields will be rotated to minimize clogging and maintenance costs.

#### **AA. Disposal Main**

The route of the treated effluent disposal main depicted in the FEIR will be revised. The revised route will follow the same general corridors, but will be relocated to different streets in some areas. The revisions are necessary to match the changes in effluent disposal sites described elsewhere and to optimize the alignment and profile of the pipeline where possible.

**Environmental Considerations.** Impacts associated with pipeline construction are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

## Harvest System

### AB. Harvest Water Extraction

The amount of harvest water to be extracted from the upper aquifer was 400,000 gpd as presented in the FEIR. This harvest water would be extracted from the west side of the service area. Additional harvest water will be extracted from the east side of the service area. Two harvest wells will be added to extract 250,000 gpd from the upper aquifer on the east side as discussed elsewhere.

**Environmental Considerations.** The FEIR anticipated a series of recovery wells on both sides of the inferred trace of the Los Osos fault. Impacts associated with harvest wells are addressed by the FEIR.

### AC. El Morro and East Paso Harvest Wells

Two harvest wells will be added to extract harvest water from the upper aquifer on the east side as discussed elsewhere. The two new harvest wells will be located at El Morro Avenue and 8<sup>th</sup> Street and at Paso Robles Avenue and 18<sup>th</sup> Street.

**Environmental Considerations.** The harvest wells associated with these sites are assessed by separate, project specific environmental documents.

### AD. Use Options

The expected method of handling the harvest water as described in the FEIR is to blend the upper aquifer water with lower aquifer water. The upper aquifer water is expected to be high in nitrates in the early years of operation of the harvest wells. The harvest water would be blended with lower aquifer water that is low in nitrates. The blended water would then have an acceptable nitrate concentration and could be used as part of the drinking water supply for the community. Four additional uses of harvest water have been identified to handle the additional harvest water that will be produced as discussed elsewhere and to provide the District with greater operational flexibility.

**Landscape Irrigation.** One optional use is to utilize the harvest water for landscape irrigation. Use of harvest water at the Sea Pines Golf Resort is an example of a candidate location for this application. The nitrate content in the harvest water would be utilized by plants.

**Environmental Considerations.** The FEIR project description includes surface landscaping irrigation as a potential disposal method and identifies the golf course as one possible location. No additional impacts are anticipated.

**Apply Harvested Water to Effluent Disposal Sites.** A second optional use is to apply harvest water to some of the effluent disposal sites. During the initial years of operation, the wastewater flow that will be received at the WWTF is expected to be approximately 1.0 mgd. The WWTF and effluent disposal system will be designed and constructed to handle 1.4 mgd. Therefore, approximately 400,000 gpd of effluent disposal capacity will be available during the initial years of operation of the wastewater system.

**Environmental Considerations.** No new impacts will result from this disposal alternative.

**Treat Harvested Water.** A third optional use is to discharge limited amounts of harvest water to the wastewater collection system. The WWTF is designed for denitrification, and as discussed above, will

have excess treatment capacity in the initial years of operation of the wastewater system. The treatment of harvest water at the WWTF would help reduce the nitrate concentration.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR.

**Discharge to Bay.** A fourth option is to discharge limited amounts of harvest water to existing District stormwater drainage pump stations located at Don/Mitchell and El Moro/8th St. The harvest water would then be discharged to Morro Bay by the drainage pump stations through existing outfalls. This approach would only be utilized in the early years of operation and could not be sustained for many years to maintain the safe yield of the groundwater basin.

**Environmental Considerations.** If this approach is pursued, the CSD would discharge up to 100,000 gallons per day of harvested groundwater to each of two existing outfall facilities in the Bay during dry weather. According to Sorrel Marks of the Regional Water Quality Control Board (personal communication), such a discharge would be covered by an existing permit issued under Order No. 01-119 and NPDES No. CAG99301 entitled "Waste Discharge Requirements General Permit for Discharges With Low Threat to Water Quality". As the title implies, this permit covers the discharge of (in this case) groundwater to water bodies such as the Morro Bay Estuary that are considered of low threat to water quality. The permit is updated every five years and its issuance was subject to separate CEQA review prepared by the Regional Board. The permit provides examples of low threat discharges that may be covered by the permit. These include:

- Discharges with low flows (less than 100,000 gallons per day);
- Continuous discharge of such things as cooling water, evaporative condensate, and desalination brine;
- Discontinuous flows that may result from water supply well installation, maintenance of water supply wells, landscape and swimming pool water;

For each of these categories, the permit provides maximum daily flow limits. For example, the discharge of cooling water is limited to 100,000 gallons per day per discharge location.

To fall within the *Low Threat* permit described above, the discharge of harvest water to the Bay will be managed so that:

1. Discharge to either existing outfall will not exceed 100,000 gallons per day per outfall location;
2. Discharge will not occur during low tide;

With regard to the potential impact of such discharges to the marine environment, Title 40, Section 125.122(b) of the Clean Water Act: *Determination of unreasonable degradation of the marine environment* states:

*Discharges in compliance with section 301(g), or 316(a) variance requirements or State water quality standards shall be presumed not to cause unreasonable degradation of the marine environment, for any specific pollutants or conditions specific in the variance or the standard.*

In this case, the Regional Board has determined that harvested groundwater meets the State standards for discharge into the Morro Bay Estuary. Accordingly, under Section 125.122(b), it is presumed to not cause "unreasonable degradation" of the marine environment of the Bay.

The following Coastal Act policies are also applicable:

*30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

*30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The policies speak to the issue of protecting the marine environment to sustain biological productivity. Since the water quality of the groundwater being discharged to the Bay will meet water quality standards set by the Regional Water Quality Control Board, adverse impacts to the marine environment are considered not adverse in accordance with 125.122(b) of the Clean Water Act.

#### **AE. Harvest Mains**

The harvest mains that convey water from the harvest wells were limited to alignments between harvest wells and production wells with the use concept identified in the FEIR as discussed elsewhere. The harvest main alignments will be extended to potential points of discharge to irrigation sites, effluent disposal sites, and the collection system as discussed elsewhere.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

Biological assessment of Lupine Street pump station (Attached)

**April 10, 2002**

Mr. Bruce Buel  
General Manager  
Los Osos Community Services District  
2122 9<sup>th</sup> Street  
Los Osos, CA 93402

SUBJECT: *Due Diligence Survey Results*

Dear Mr. Buel:

This letter documents our findings during the brief due diligence biological site assessment conducted on the proposed sewer lift station site at the corner of Lupine Street and Donna Avenue in Los Osos, California. (refer to Figure 1). Per your request, Morro Group biologist Bob Sloan performed a brief survey of Lots 10 and 11 on Lupine Street between Doris Avenue and Donna Avenue on April 3, 2002, to identify any potentially significant biological resource constraints that could affect the proposed project.

Both lots were examined, however the survey concentrated on the 50 by 60 foot eastern portion of Lot 10 proposed for use by the Community Services District. The primary concern focused upon was the presence or absence of wetland areas on or adjacent to the site, however the potential for the presence of special-status plant and animal species, including the Morro shoulderband snail (*Helminthoglypta walkeriana*) was also considered. Please note that formal wetland delineation and Morro shoulderband snail surveys per U.S. Army Corps of Engineers and U.S. Fish & Wildlife Service protocols were not performed as part of this report. The following is a description of our findings:

**Existing Conditions**

The surveyed lots are located on the southern side of Lupine Street, and are bordered by Doris Avenue to the west, Donna Avenue to the east, and undeveloped property to the south. The lots are rectangular, level, and undeveloped, and are dominated by non-native plant species commonly found in disturbed areas of Los Osos. The two lots appear to have been graded during adjacent residential development, and may have been a receiving site for fill material from dredging operations conducted in Shark Inlet many years ago. Veldt grass (*Ehrharta calycina*), ripgut brome (*Bromus diandrus*), and Bermuda grass (*Cynodon dactylon*), are the dominant plants present, with freeway daisy (*Osteospermum fruticosum*), wild radish (*Raphanus sativus*), and California poppy (*Eschscholzia californica*), also present.

A patch of ice plant (*Carpobrotus edulis*) is present at the corner of Lupine Street and Donna Avenue. No shrubs or trees are present on the two lots.

### Findings

No wetland areas or native coastal scrub habitat for the Morro shoulderband snail (MSS) are present on the two lots. The ice plant present at the corner of Lupine Street and Donna Avenue does constitute suitable non-native habitat for MSS. No live Morro shoulderband snails or empty shells were found during the survey of the two lots, and no special status plant species were observed. Several live common garden snails (*Helix aspersa*) and empty shells were observed during the survey.

The 50 by 60 foot area of Lot 10 at the corner of Lupine Street and Donna Avenue proposed for lift station construction contains approximately 600 square feet of ice plant that could provide suitable habitat for MSS. No other constraints are present within this area. The adjacent undeveloped properties to the south contain a depressionnal wetland area composed of arroyo willow (*Salix lasiolepis*), cattail (*Typha latifolia*), blackberry (*Rubus ursinus*), water parsley (*Oenanthe sarmentosa*), and other common wetland species. The wetland boundary is located approximately 60 feet south of the southern property line of Lot 10, based on the occurrence of wetland plant species. These wetland areas do not contain suitable habitat for MSS.

### Conclusions

Based on the observed site conditions, construction of the proposed lift station at the corner of Lupine Street and Donna Avenue will not impact wetland areas. Construction does have potential to result in “take” of Morro shoulderband snail and approximately 600 square feet of suitable non-native habitat (ice plant). Section 3(18) of the Endangered Species Act defines “take” to mean “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

As defined by the U.S. Fish and Wildlife Service (USFWS), “*harm*” includes significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering.

#### Recommendations

Prior to and during lift station construction, erosion and spill control best management practices should be implemented at the site. To reduce the potential for inadvertent release of sediment, construction materials, or fuel from construction areas to adjacent wetland habitats, appropriate erosion control devices (i.e., hay bales, silt fences) should be installed around the southern perimeter of the construction zone, and around any gutters leading to the wetland area. Erosion control devices should be checked on a daily basis to ensure proper function. During construction, avoid all cleaning and refueling of equipment and vehicles within the vicinity of the identified wetland habitat.

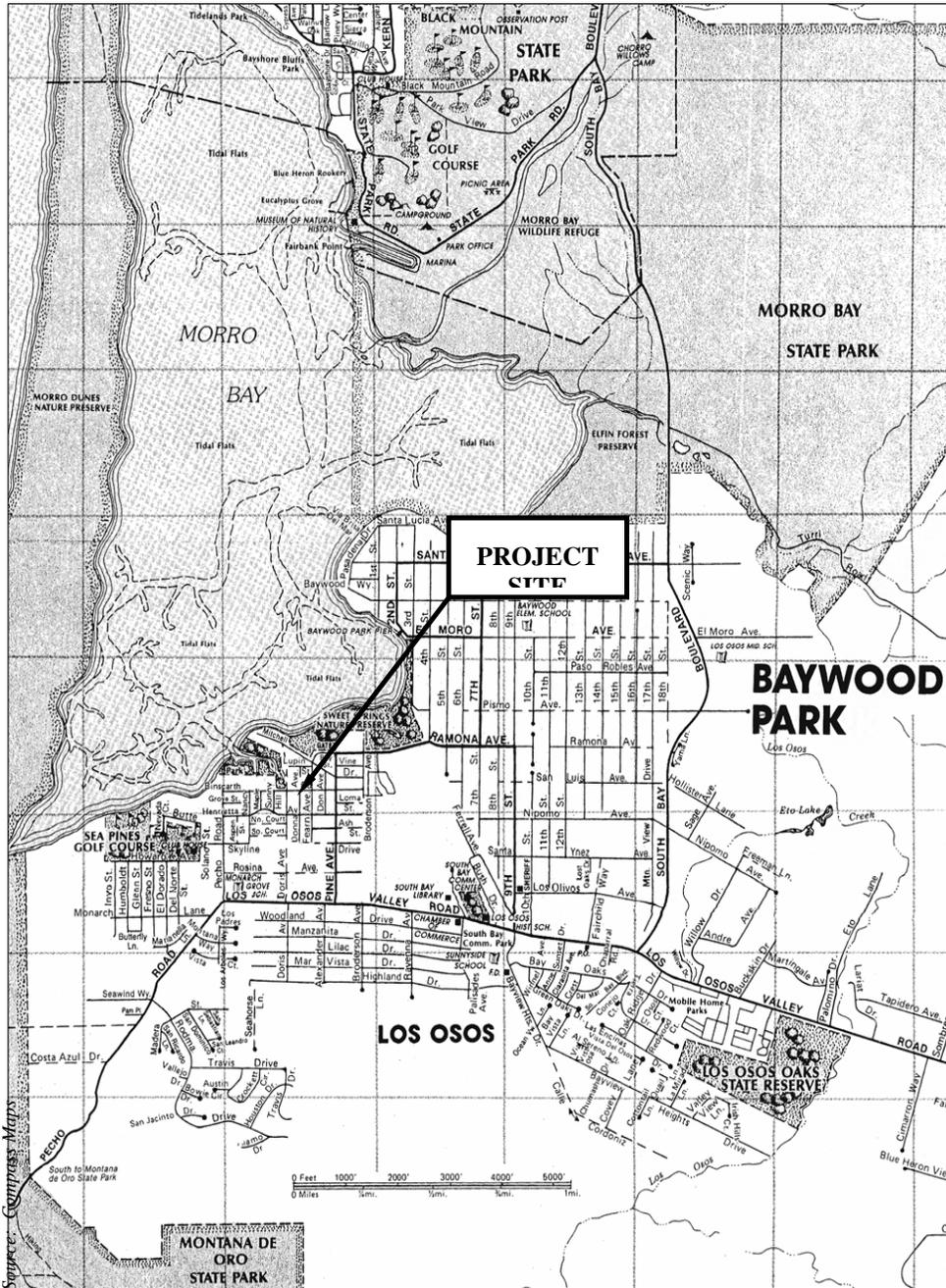
Following completion of construction activities, all disturbed previously vegetated areas should be revegetated with appropriate native plant species to reduce the risk of erosion and sedimentation into adjacent wetland areas.

If you have any questions or comments regarding these findings or recommendations, please do not hesitate to call me at (805) 543-7095.

Sincerely,

MORRO GROUP, INC.

Robert Sloan,  
Resource Specialist



**NORTH**

Not to Scale

**VICINITY MAP**

## Adopted Mitigation Measures from the Certified FEIR

### Geologic Resources

Mitigation GEO-1: An NPDES Construction Activity Storm Water Permit shall be obtained prior to the onset of construction activities. Appropriate BMPs, as established in the project NPDES Construction Storm Water Permit, shall be employed during project construction, which may include, but are not limited to, temporary sand bagging; construction of berms; installation of geofabric, and revegetation of areas by hydroseeding and mulching; and the use of trench stabilizing and de-watering. The NPDES permit shall apply to all proposed facilities, and shall address 50 to 100-year precipitation events to the extent feasible. The Pollution Prevention Plan portion of the NPDES permit shall be reviewed and approved by the County Engineering Department and the RWQCB. (Impacts GEO-1, GEO-2, GEO-4, GEO-5, GEO-6, GEO-11)

Mitigation GEO-2: Project implementation shall include a long-term Erosion Control Plan. The plan shall include the treatment plant site, the collection system, and the disposal sites. The Erosion Control Plan shall identify erosion control practices to be implemented throughout the construction and operation of these facilities. These measures may include, but are not limited to, recompaction of soils; revegetation of disturbed areas; utilization of soil binding; or other methods for reducing short-term and long-term erosion. The Plan shall be reviewed by the County Office of Planning and Building, and shall be included in contractor bid and contract documents. (Impacts GEO-1, GEO-2, GEO-4, GEO-5, GEO-6, GEO-11)

Mitigation GEO-3: All proposed facilities shall be designed and constructed in accordance with UBC Seismic Zone 4 regulations. (GEO-8, GEO-12)

Mitigation GEO-4: Prior to finalization of project design, the LOCS D shall consult with the California Division of Mines and Geology CDMG to determine the Design Basis Earthquake for system components. (GEO-8, GEO-12)

Mitigation GEO-5: Prior to construction, a geotechnical investigation shall be carried out as part of final facility design. This geotechnical investigation shall include analysis of the proposed treatment plant site, the disposal system, and the collection system, where determined necessary by the LOCS D and governing regulatory agencies. The geotechnical investigation shall address the following issues:

1. Design of facility foundations and walls such that potential impact associated with fault rupture onsite would be reduced to the extent feasible. Design measures for rapid repair of facilities shall be identified as necessary.
2. The investigation shall determine onsite ground water levels, and identify soil layers that could be subject to liquefaction during a seismic event. Specific measures, such as excavation/recompaction of foundation areas, long-term dewatering, or utilization of foundation piles, should be identified as necessary to reduce potential impacts to a less than significant level.
3. The investigation shall identify the potential for settlement or lurching associated with seismic events. Specific measures, such as excavation/recompaction, shall be identified as necessary to reduce potential impacts to a less than significant level.
4. The investigation shall identify the potential for disruption of collection associated with fault rupture. Design measures for isolation and rapid repair of facilities shall be identified, where necessary.
5. The County Engineering Department shall review and approve the scope and findings of the geotechnical investigation, and shall review final project design to ensure incorporation of recommended measures.

(Impacts GEO-7, GEO-8, GEO-12)

Mitigation GEO-6: Implementation of CDMG Liquefaction Mitigation. Where determined necessary by geotechnical investigations, design of system components shall incorporate recommendations contained in the CDMG publication "Guidelines for Evaluating and Mitigating Seismic Hazards in California." Mitigation cited in this publication include recompaction of liquefiable soils and use of reinforced shallow foundations. (Impacts GEO-3, GEO-9)

Mitigation GEO-7: Prior to construction, a complete grading and drainage plan shall be submitted to the LOCSD and County Department of Planning and Building for review and approval. Such grading and drainage plan shall address the requirements of the geotechnical investigation described in Measure GEO-5, above. (Impact GEO-6, GEO-9, GEO-5)

Mitigation GEO-8: Rehabilitation of disposal leach fields shall be rotated so that no more than one field is under re-construction at a time. (Impact GEO-13)

Mitigation GEO-9: In addition to the long-term erosion control plan cited in Measure GEO-2, above, plans for the Broderson disposal site shall designate access routes for review and approval by the LOCSD which intrude minimally into the landscape. Plans shall include prompt re-vegetation of disturbed areas. (Impact GEO-13)

### **Hydrology/Groundwater Resources**

Mitigation H-1: NPDES Permit. The LOCSD will obtain and comply with an NPDES permit from the RWQCB and will develop an SWPPP for the project, which will include, among other requirements, the identification of Best Management Practices (BMPs) to be used for erosion control, actions for control of potential fuel or drill tailing release, and requirements for disposal (i.e., location, quality) of water from dewatering activities. (Impact H-1, H-5)

Mitigation H-2: Revegetation Plan. A comprehensive revegetation plan will be developed for the Broderson site, which at a minimum, will include re-planting of exposed surfaces with native vegetation. (Impact H-5)

Mitigation H-3: The Los Osos Community Services District shall prepare and implement a comprehensive water management plan for the Los Osos groundwater basin. The purpose of the plan is to identify management strategies aimed at achieving a sustainable water supply to serve buildout of the community in accordance with the Estero Area Plan, as it may be amended from time to time (H-5).

### **Drainage**

Mitigation WR-1: Grading, Drainage and Erosion Control Plan. Construction plans for the Tri-W site shall include a complete grading and drainage plan incorporating the recommendations of a geotechnical engineering evaluation (see Mitigation GEO-5). Measures to be considered for the mitigation of potential drainage, erosion, seepage and water quality impacts include, but are not limited to:

1. The incorporation of an on-site runoff collection system which includes energy dissipation, berms, temporary settling basins, and/or a silt/hydrocarbon separator for the collection and removal of hazardous materials and sediments.
2. The incorporation of an on-site drainage system to collect runoff from all impervious onsite services, including parking spaces, roads and buildings.
3. Surface runoff should be collected by curbs, gutters and drainage swales and conveyed to an appropriate point of disposal. Discharges of greater than five feet per second should be released through an energy dissipater or outlet.
4. The incorporation of sub-surface drains to intercept seepage and convey it to an acceptable point of disposal.
5. Watering the site at least twice per day during construction, or more frequently if determined necessary by the LOCSD.
6. Re-vegetating portions of the site exclusive of paved areas as soon as reasonable following grading.

7. Incorporating rain gutters and downspouts for buildings.
8. Grading surfaces adjacent to buildings so that runoff is conveyed away from foundations and onto paved surfaces or underground collection pipes.

(Impacts WR-2,WR-4, WR-5)

Mitigation WR-2: NPDES Permit. The LOCSD will obtain and comply with an NPDES permit from the RWQCB and will develop an SWPP for the project, which will include, among other requirements, the identification of Best Management Practices (BMPs) to be used for erosion control, actions for control of potential fuel or drill tailing release, and requirements for disposal (i.e., location, quality) of water from dewatering activities. (Impacts WR-6, WR-7, WR-8, WR-3,WR-2, WR-1)

Mitigation WR-3: Revegetation Plan. A comprehensive revegetation plan will be developed for the Broderson and Powell sites, which at a minimum, will include re-planting of exposed surfaces with native vegetation.(Impact WR-6)

### **Cultural Resources**

Mitigation C-1 Undiscovered Resources. All cultural resources discovered during construction must be avoided in order to eliminate any potential impacts. All work in the vicinity of the suspected resource will stop and the proper authorities will be notified. Prior to restart of work, a qualified archaeologist will determine the significance of the resource. Suggested measures for mitigation shall be adhered to. If the resource is suspected to contain human remains, the County Coroner and an approved Native American consultant shall be contacted to determine the nature and significance of the find.(Impacts C-1, C-2, C-3)

Mitigation C-2 Archeological Monitoring. If a resource is discovered and an area is deemed potentially sensitive, archaeological monitoring will be required. The monitoring shall be conducted by a qualified archaeologist recognized as such by the County of San Luis Obispo with sufficient experience with local archaeological resources to make accurate determinations if cultural resources are exposed.

In addition, in all areas determined to be sensitive because of prehistoric remains, a Native American monitor should be present as well. The presence of Native American monitoring will assist in identification of archaeological resources, should they be encountered. More importantly, the Native American monitor will act as a representative of the local tribe (Obispeño or Northern Chumash) in the event that human remains or traditional cultural properties are encountered. If such remains are found, they would assist in the decision making process and would act as a consultant on issues related to state and local applications of the Native American Graves Protection and Repatriation Act (NAGPRA) and the American Indian Religious Freedom Act (AIRFA).

Finally, if significant resources are discovered, efforts will be made by local law enforcement as well as designated monitors to prevent looting of the sites by non-professionals.

(Impacts C-1, C-2, C-3)

### **Traffic and Circulation**

Mitigation TR-1: Construction Traffic Mitigation Plan. The LOCSD shall prepare a construction traffic mitigation plan which identifies the location of equipment and trenches to be used; sequencing/phasing of installation; the location of materials and equipment staging areas; and proposed detour routes. The plan shall also provide for adequate emergency access, and routing of construction-related vehicles to minimize impacts to sensitive land uses. The plan shall also provide for the scheduling of construction related traffic so that it does not create safety hazards to school children and other pedestrians. (Impacts TR-2, TR-3)

Mitigation TR-2: Public Notice of Construction. The public shall be notified of potential obstructions and alternative access provisions. This notification may be accomplished by posting signs near the construction area at least one week in advance of the commencement of construction. In addition, information signs shall be posted on Los Osos Valley Road, with a phone number to call for questions. Phone inquiries shall be answered by a live public relations official, and not a pre-recorded message. Alternative access provisions and parking will be provided where necessary, with guide signs to inform the public. There will also be alternative pedestrian facilities provided to avoid obstruction to pedestrian circulation. (Impacts TR-2, TR-3)

## Air Quality

Mitigation AQ-1. Equipment Emission Control Measures. The applicant shall fully implement CBACT for the highest emitting piece of diesel-fired heavy equipment used to construct each major component of the proposed project. It is expected that tandem scrapers or tracked tractors would be the highest emitters. CBACT includes:

- Fuel injection timing shall be retarded 1.5 to 2.0 degrees from the manufacturer's recommendation;
- High pressure fuel injectors shall be installed in all engines;
- Reformulated diesel fuel shall be used on the project site;
- Ceramic coating of the combustion chamber;
- Installation of catalytic converters;

In addition, Caterpillar pre-chamber, diesel-fired engines (or equivalent low NO<sub>x</sub> engine design) shall be used in heavy equipment used to construct the project to further reduce NO<sub>x</sub> emissions. These requirements shall be noted on the grading plan and listed in the contractor and subcontractor contracts. If implementation of such measures is not feasible within the time-frame mandated for the proposed project, other vehicle fleets would be considered as alternatives, subject to APCD approval. At a minimum, if the above CBACT or an equivalent are not considered for mitigation, all heavy duty equipment operation onsite should have the timing retarded 4 degrees. (Impacts AQ-1, AQ-2)

Mitigation AQ-2. Dust/PM10 Control Measures. Dust generated by construction activities shall be kept to a minimum by full implementation of the following measures:

- During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems are to be used to prevent dust from leaving the site and to create a crust after each day's activities cease;
- During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the morning and after work is completed for the day and whenever wind exceeds 15 miles per hour;
- Stockpiled earth material shall be sprayed as needed to minimize dust generation;
- During construction, the amount of disturbed area shall be minimized, and onsite vehicle speeds should be reduced to 15 mph or less;
- Exposed ground areas that are planned to be reworked at dates more than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established;
- After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately by watering or revegetating or spreading soil binders to minimize dust generation until the area is paved or otherwise developed so that dust generation will not occur;
- Grading and scraping operations shall be suspended when wind speeds exceed 20 mph (one hour average);
- All roadways, driveways, and sidewalks associated with construction activities should be paved as soon as possible. In addition, building and other pads shall be laid as soon as possible after grading unless seeding or soil binders are used. (Impacts AQ-1, AQ-2)

Mitigation AQ-2. Best Available Technology. Project implementation shall be designed to conform with energy efficiency requirements outlined in Title 24 of the California Code. To the extent feasible, design of the proposed project should incorporate best available technology for energy efficiency. Additionally San Luis Obispo County APCD recommends the following measures be implemented to further reduce or offset long term emissions:

- Provide an on-site lunch room with refrigeration and food preparation (i.e., microwave) appliances to reduce daily trips to and from the treatment facility;
- Use of double paned windows in office area where interior heating/air conditioning will occur;
- Use of energy efficient interior lighting where applicable. (Impact AQ-4)

Mitigation AQ-3. Odor Performance Standard. Neighbors of the Tri-W site shall be informed that odor nuisance complaints are to be directed to the APCD for documentation. Any odor complaints received by the County Engineering Department or plant staff shall be forwarded within one day of receipt to the APCD. The APCD will contact plant staff following each odor nuisance complaint to determine the nature and cause of the odor sources. The Los Osos Community Services District shall utilize a threshold of three nuisance complaints per year as a performance guideline with respect to odor generation. Should nuisance complaints exceed this number, the District shall assess odor levels at the treatment plant site. The assessment shall include the following:

- Utilization of a scentometer to assess odor concentration with respect to the BAAQMD dilution to threshold ratio (D/T ratio). This ratio indicates the number of equal volume dilutions to the point at which 50% of the population below the age of 45 first detects the odor. Regulation 7 adopted by the BAAQMD restricts the release of odorous substances to 4 D/T at the property line. If the D/T ratio exceeds the 4 D/T ratio threshold established by the BAAQMD, the district shall provide a letter report to the APCD summarizing the nature and cause of the odor source, the frequency at which this source has caused complaints in the past, the frequency at which this source is anticipated to occur, and a course of action to reduce onsite odor generation. Measures may include, but are not limited to, the following:

- Upstream addition of ferrous chloride to the influent stream to reduce septic conditions;
- Establishment of additional "negative air" containment areas;
- Additional treatment component enclosure, and;
- Installation of air flow baffles to improve odor dissipation. (Impact AQ-4)

Mitigation AQ-4. Activity Management Techniques. The following additional measures related to construction emissions shall be implemented:

- A comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period should be developed.
- Construction of truck trips should be scheduled during nonpeak hours to reduce peak hour emissions.
- The length of the construction work day period should be limited, if necessary.
- Construction activities should be phased, if appropriate. (Impacts AQ-1, AQ-2)

## Noise

Mitigation N-1: Construction will be limited to the hours of 7 a.m. to 6 p.m. on weekdays, and 8 a.m. to 5 p.m. on weekends. (Impacts N-1, N-3, N-5)

Mitigation N-2: The construction contractor shall agree to the following upon hire:

- Equipment shall be fitted with mufflers, in good operating condition and fitted with factory standard silencing features;
- A hauling route and staging plan shall be submitted to the LOCSO which is designed to minimize noise impacts with sensitive land uses;
- When available and proper for the task, contractor shall use electric versus diesel equipment;
- Portable noise barriers shall be employed where necessary to minimize noise impacts; (Impacts N-1, N-3, N-5)

Mitigation N-4: Design of the treatment plant shall incorporate housing for pumps, aerators and other accessories generating noise in excess of 50 dB Leq. (Impact N-4)

Mitigation N-5: Operation and Maintenance plans for the facility will ensure that all pumps and aerators are kept in proper working order.(Impact N-4)

### **Public Health and Safety**

Mitigation PS-1 Hazardous Materials Management Plan. A Hazardous Materials Management Plan shall be developed and submitted to the County of San Luis Obispo Health Department for approval. The plan shall identify hazardous materials utilized onsite and their characteristics; storage, handling and training procedures; and spill contingency procedures. Additionally, the Plan should address fuel storage at the pump station sites. (Impact PS-3, PS-4, PS-5)

Mitigation PS-2 Best Available Technology. Project implementation shall be designed to conform with energy efficiency requirements outlined in Title 24 of the California Code. To the extent feasible, design of the proposed project should incorporate best available technology for energy efficiency. Additionally San Luis Obispo County APCD recommends the following measures be implemented to further reduce or offset long term emissions:

- Provide an on-site lunch room with refrigeration and food preparation (i.e., microwave) appliances to reduce daily trips to and from the treatment facility;
- Use of double paned windows in office area where interior heating/air conditioning will occur;
- Use of energy efficient interior lighting where applicable. (Impact PS-6)

Mitigation PS-3 Prior to operation of the wastewater treatment system, the Los Osos CSD shall either 1) secure a contract for bio-solids disposal with a land disposal or recycling facility or 2) construct a bio-solids recycling facility that satisfies Title 40, Section 503 of the Code of Federal Regulations. (Impact PS-7)

Mitigation PS-4 The Los Osos CSD shall mitigate the potential temporary loss of water for fire fighting that may occur as a result of construction activities by either 1) acquiring a water tender, to the satisfaction of the Fire Chief, or 2) through some other equivalent means as determined by the Fire Chief and the CSD Board. (Impact PS-1)

Mitigation PS-5 All contractors shall comply with relevant provisions of CAL-OSHA CAC Title 8 regarding the provision of safety and rescue equipment, to the satisfaction of the Fire Chief. (Impact PS-2)

### **Visual Resources**

Mitigation AES-1: Construction staging Area. For all aspects of the project, construction staging areas shall be located away from sensitive viewing areas to the extent feasible. Before construction activities begin, an area for construction equipment storage away from direct views of sensitive viewing corridors (e.g. residences and major roads in the project area) shall be designated. (Impact AES-3)

Mitigation AES-2: Conformance With County Development Standards. The final design and construction plans for the park and treatment plant site shall be consistent with relevant visual resource protection policies and standards of the San Luis Obispo County General Plan, Estero Area Plan, Coastal Zone Framework for Planning, and the Agriculture and Open Space Element. (Impact AES-4)

- Mitigation AES-3: Landscaping Plan. A final landscaping plan shall be prepared for the entire project site and approved by the County prior to building permit issuance for the Tri-W site. Said landscaping plan shall emphasize native plant materials and shall include sufficient planting to screen views of the project from nearby roads and residential developments. The goal for the landscaping plan shall be to visually integrate the project into the community by creating a park-like setting, while preserving and enhancing existing views. (Impact AES-4)
- Mitigation AES-4: Revegetation Plan. A revegetation plan shall be prepared to the satisfaction of the US Fish and Wildlife, California Department of Fish and Game and San Luis Obispo County for the 8-acre portion of the Broderson site that will be disturbed by the installation of the disposal leach fields. The plan shall be prepared by a qualified landscape architect and/or botanist and shall, to the extent feasible, restore the site to its condition prior to disturbance. (Impact AES-4)
- Mitigation AES-5: Lighting Plan. A final lighting plan shall be prepared for the treatment facility. The lighting plan shall meet County design standards. This shall include proper shielding, proper orientation and applicable height standards. (Impact AES-5)

### **Biological Resources**

- Mitigation BIO-1: Where construction will necessitate disturbance in undeveloped lots, wetlands and other potentially sensitive areas, a pre-construction survey will be conducted to assess and minimize any potential impacts. (Impact BIO-2)
- Mitigation BIO-2: Loss of Wintering Monarch Butterfly Roost Sites. The project proponent shall avoid habitat where feasible. A qualified monarch butterfly specialist will conduct preconstruction surveys for the monarch butterfly during the months of October to February. Potential roost sites that could be affected during construction will be fenced. (Impact BIO-5, BIO-14)
- Mitigation BIO-3: Loss of Raptor Habitat. The project proponent will conduct a preconstruction survey for nesting raptors. Depending on the timing of construction, the project proponent will conduct a preconstruction survey during spring or early summer (April to early July) to determine whether nesting raptors or species protected by State and/or Federal law are present on or within the project area. Winter surveys are also recommended and should be done by a qualified wildlife biologist. If the survey results indicate that nesting raptors or protected species are present on or within the project area, the nest tree or area will be fenced or otherwise demarcated and a 500-foot no-disturbance buffer will be established until the nesting activity is completed and the young have fledged. The distance and placement of the buffer area will be determined in consultation with the CDFG. Only after nesting activities have ceased will construction be allowed to continue. All potentially suitable nesting trees will be removed prior to the breeding season. (Impact BIO-7, BIO-16)
- Mitigation BIO-4: Mitigate for Loss of Coastal Scrub Habitat. Agency Consultation/Permitting. Project implementation would result in direct or indirect disturbance or potential take of several federal and state listed species. Project implementation would require authorization for this disturbance or potential take from both the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Authorization requirements are outlined below:
- A. USFWS. Authorization for take by USFWS would require formal consultation with USFWS pursuant to section 7 of the Endangered Species Act.
  - B. CDFG. Authorization for take by CDFG would require a Memorandum of Understanding (MOU) and Management Authorization (MA) pursuant to Section 2050 et seq. of the California Fish and Game Code. Development of a MOU/MA would be based upon the Section 7 USFWS consultation discussed above.

C. Acquire Additional Habitat. As part of the consultation efforts described above, the District will acquire additional habitat sufficient to compensate for the loss of habitat of the Morro shoulderband snail, Morro Bay kangaroo rat, Morro Bay blue butterfly, and other species dependent upon the coastal scrub habitat due to the direct impacts of the project. The land acquired should have the following qualities:

- ▶ The preferred site for mitigation is the northerly Broderson parcels, subject to the eight acres of leach fields. This habitat mitigation is for all direct impacts except from any leach fields constructed on the east side of the inferred fault.
- ▶ The land should be habitat in or contiguous to the proposed critical habitat area as designated by the USFWS. Ideal land that meets this criteria is located around the community of Los Osos in the area studied for the greenbelt program by the Land Conservancy.
- ▶ Any disturbed portion of the land should be capable of restoration to a native habitat. This would mean that the soils have not been removed or fill placed on the site that are unsuitable for the native plantings (other than small amounts). The land should be free of structures or debris, or capable of being cleared of any structures.
- ▶ The land should have primarily aeolian sand deposits; be in a stabilized condition (not mobile); have an open canopy; be of the appropriate aspect and other meteorological conditions.
- ▶ The land should be granted to an appropriate agency or conservation organization in perpetuity with deeded guarantees of non-development or transfer (unless to another like organization). The protection of the land may allow for some passive public activities, such as hiking, scientific investigation, and low-impact education.

D. Restoration. After securing the land, the District should restore the land so that it functions as suitable habitat for many of the local species of plants and wildlife described in this EIR whose existence is endangered or of concern. One of the benefits of this mitigation approach is that a single program will mitigate the impacts to all or most of the species described in the setting section. Restoration of the land should include the following:

- ▶ Removal of invasive exotic plant species. This may mean removal of all plants by grading, or a program of hand labor, depending upon the condition of the land. If the amount of invasives is relatively small, the work should leave as much of the existing native vegetation intact.
- ▶ Removal of structures or debris.
- ▶ Regrading of any unnatural mounds, holes or berms previously created on the site.
- ▶ A planting program of a mixture of indigenous plant species that serve to restore the site and serve multiple species' needs, especially the Morro shoulderband snail, Morro Bay blue butterfly, Black legless lizard, and potential future re-introduction of the Morro Bay Kangaroo Rat. This will include Dune Lupine for the Morro Bay blue butterfly. The final planting program should be developed in consultation with CNPS, CDFG and USFWS.
- ▶ An ongoing maintenance and observation program.

(Impact BIO-4, BIO-6, BIO-8, BIO-12, BIO-17, BIO-19, BIO-20)

Mitigation BIO-5 Minimize Disturbance of Coastal Scrub, Chaparral, and Coast Live Oak Woodland Habitats Located Around the Perimeter of the Leach Field Sites During Construction. Minimize, to the extent feasible, the amount of disturbance of land beyond the actual area of development. This can be accomplished by identifying minimum activity area required, and establishing a physical construction limit beyond which equipment and storage of material would not extend.

- ▶ Clearly identify and mark the perimeter of the proposed leachfield construction zone prior to and during construction onsite with highly visible temporary fencing.
- ▶ Restrict the use of all heavy equipment and vehicles to areas located inside of the identified construction zone throughout the duration of construction.
- ▶ Clearly identify and mark the proposed access route to the construction zone of the leachfield, and limit all construction traffic to areas located within the identified access route.
- ▶ Leave areas of undisturbed habitat between portions of the leachfield, rather than clearing a single, contiguous area.

(Impacts BIO-12, BIO-13, BIO-14, BIO-15, BIO-16, BIO-17, BIO-18))

Mitigation BIO-6 Relocate Sensitive Species. Qualified biologists should remove as many Morro shoulderband snails as practicable from any area of proposed disturbance. These should be relocated nearby to suitable habitat. (Impact BIO-4, BIO-13, BIO-19))

Mitigation BIO-7 Restore Sensitive Habitats Disturbed During the Construction Phase of the Leach Fields. Following completion of construction of the proposed leach fields, revegetate all areas located within or around the area that previously contained native vegetation and that were disturbed during construction.

- ▶ Revegetate only with appropriate indigenous native vegetation. At a minimum, the structure and composition of habitats restored should reflect pre-project site conditions or better.
- ▶ All exotics that escape cultivation should be removed on a regular basis.
- ▶ All plantings should be grown from native parent stock collected onsite, and will be propagated by a native plant nursery specialist. In addition, the health and maintenance of all replacement vegetation should be monitored for a sufficient duration and frequency to ensure successful establishment of the vegetation.

(Impacts BIO-12, BIO-13, BIO-14, BIO-15, BIO-16, BIO-17, BIO-18, BIO-19, BIO-20)

Mitigation BIO-8 Control Introduction of Invasive Exotic Plants. To control introduction of invasive exotic plants on site, implement the following measures during construction and incorporate into the design guidelines of the proposed leach fields, as appropriate.

- ▶ Use only clean fill material (free of weed seeds) within the construction zone of the proposed project.
- ▶ Thoroughly clean all construction equipment prior to being moved onto and used at the site.
- ▶ Prohibit planting or seeding of disturbed areas with nonnative plant species;
- ▶ Control the establishment of invasive exotic weeds in all disturbed areas.

(Impacts BIO-12, BIO-13, BIO-14, BIO-15, BIO-16, BIO-17, BIO-18, BIO-19, BIO-20)

Mitigation BIO-9 Avoid or Minimize Disturbance of Special-Status Plants Located Within and Adjacent to the Perimeter of the Project Site Construction Zone. Implement the following measures prior to and during construction to avoid or minimize unnecessary disturbance of special-status plants occupying the vicinity of the project site.

- ▶ Retain a qualified botanist to conduct focused surveys for special-status plant species during the appropriate flowering periods for the various species that are known to occur or have potential to occur within the construction zone of the project site, based on the presence of suitable habitat.
- ▶ Clearly map and identify each individual or groups of special- status plants observed during the focused survey with highly visible flagging. Morro Manzanita located in the southern portion of the Broderson site should be marked with highly visible flagging and completely avoided.
- ▶ Provide instruction to construction personnel on avoiding unnecessary disturbance of areas marked with flagging and identify the locations of all groups of special-status plants.

- ▶ Transplant Individual Special-Status Plants Located With the Construction Zone of the Leach Fields. Individual special-status plants that are identified as occurring within the proposed construction zone should be identified. If it is determined that avoidance or disturbance of the identified plants is not feasible, implement transplanting operations for the identified species. It should be noted that the success of transplanting is highly dependent on the specific taxon. Transplanting of some species currently occupying the site may not be as successful as for others, or may fail entirely. Therefore, prior to implementing these operations, previous case studies should be researched to determine which plants are expected to have reasonable opportunities for survival following transplantation, and determine which techniques have been successful previously. If transplanting is then determined to be a viable option for some identified special-status plants, implement the following measures:

1. Avoid disturbance of the root system of each plant during transplanting.
2. A plant should only be moved to a habitat that contains site conditions similar to the location previously occupied by each plant.
3. Closely monitor the success of transplanted species.

(Impacts BIO-12, BIO-13, BIO-14, BIO-15, BIO-16, BIO-17)

Mitigation BIO-10. Avoid or Compensate for Loss of Morro Bay Kangaroo Rat Habitat. Due to the limited and localized distribution of the Morro Bay kangaroo rat, the project proponent will make every effort to avoid the loss of suitable Morro Bay kangaroo rat habitat. Preconstruction surveys will be conducted by a qualified wildlife biologist. These surveys may include a combination of techniques. The project proponent will work with CDFG and USFWS to determine the best means of surveying for the kangaroo rat. The project proponent will compensate for loss of habitat in an area within the limited range of the Morro bay kangaroo rat and of equal or better quality than the habitat that will be impacted (see Mitigation BIO-4). The project proponent shall ensure that the site is not adversely affected by human disturbance, domestic animal disturbance, or the use of substances toxic to the Morro Bay kangaroo rat. (Impacts BIO-8, BIO-17)

Mitigation BIO-11. Avoid the Loss of Wintering Monarch Butterfly Roost Sites. The project proponent shall avoid habitat. A qualified monarch butterfly specialist will conduct preconstruction surveys for the monarch butterfly within 0.5 miles of the proposed access road and groundwater injection sites. Potential roost sites that could be affected during construction will be fenced. (Impact BIO-5, BIO-14)

Mitigation BIO-12. Avoid or Compensate for Loss of Morro Bay blue Butterfly Habitat. Where feasible, the project proponent will avoid Morro Bay blue butterfly habitat. Surveys for Morro Bay blue butterfly presence will be conducted by a qualified wildlife biologist in late April or early May. If the habitat is likely to be disturbed during construction, fencing will be placed around areas of suitable habitat. Where avoidance is not feasible, the project proponent, will compensate for the loss of potential Morro Bay blue butterfly habitat by setting aside an area of equal or better quality than the habitat to be impacted (see Mitigation BIO-4). The project proponent will ensure that the compensation area is not adversely affected by human disturbance, vandalism, off-road vehicle use, or pesticide application. Selection of a specific compensation site will be made by mutual agreement between the project proponent, the California Department of Fish and Game, the United State Fish and Wildlife Service, and the agency or entity responsible for managing the compensation site. (Impacts BIO-6, BIO-15)

Mitigation BIO-13. Avoid Loss of Nesting Raptor Habitat. The project proponent will conduct a preconstruction survey for nesting raptors. Depending on the timing of construction, the project proponent will conduct a preconstruction survey during spring or early summer (April to early July) to determine whether nesting raptors or species protected by State and/or Federal law are present on or within the project area. Winter surveys are also recommended. If the survey results indicate that nesting raptors or protected species are present on or within the project area, the nest tree or area will be fenced or otherwise demarcated and a 500-foot no-disturbance buffer will be established until the nesting activity is completed and the young have fledged. The distance and placement of the buffer area will be determined in consultation with the CDFG. Only after nesting activities have ceased will construction be allowed to continue. Nesting habitat will be marked and avoided during construction and operation activities of the proposed project. (Impacts BIO-7, BIO-16)

Mitigation BIO-14. Avoid or Compensate for Loss of Morro Bay Kangaroo Rat Habitat. Due to the limited and localized distribution of the Morro Bay kangaroo rat, the project proponent will make every effort to avoid the loss of suitable Morro Bay kangaroo rat habitat. Preconstruction surveys will be conducted by a qualified wildlife biologist. The project proponent will work with CDFG and USFWS to determine the best method of survey for this species. Where avoidance is not feasible, the project proponent will compensate for loss of habitat in an area within the limited range of the Morro bay kangaroo rat and of equal or better quality than the habitat that will be impacted. (See Mitigation BIO-4) The project proponent shall ensure that the site is not adversely affected by human disturbance, domestic animal disturbance, or the use of substances toxic to the Morro Bay kangaroo rat. Selection of a compensation site will be made by mutual agreement of the project proponent, CDFG, USFWS, and the entity or agency responsible for managing the compensation site. (Impacts BIO-8, BIO-17)

Mitigation BIO-15 Compensate for loss of habitat at the Powell or Eto leach field site. The proponent shall acquire land between one to two as much taken for the designed area of the leach fields. The approach to this mitigation will be the same as described in BIO-4. (Impacts BIO-19, BIO-20)

Mitigation BIO-15 The LOCSDD, in conjunction with the California Department of Fish and Game (CDFG), the US Fish and Wildlife Service (USF&WS), San Luis Obispo County and the California Coastal Commission shall prepare and implement a Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) for the long-term preservation of habitat remaining within the Los Osos Greenbelt, including habitat remaining on individual vacant lots. The HCP/NCCP shall identify the habitat resources and the quality of those resources on the remaining vacant properties within the Greenbelt. The range of potential conservation programs to be considered in the HCP/NCCP shall include, but not be limited to the following:

- ▶ The identification of policies and programs to be incorporated into the Estero Area Plan aimed at the long-term preservation of sensitive biological resources in the Los Osos area; such policies and programs may include:
  - Transfer of development credits
  - Clustering
  - Avoidance of sensitive resources in site design
  - Changes in density and land use
  - Incorporation of open space into the design of new development
- ▶ Programs aimed at facilitating coordination among agencies and organizations involved in management and conservation/preservation of sensitive resources, including USF&WS, CDFG, California Coastal Commission, San Luis Obispo County, the LOCSDD, MEGA, NEP, Land Conservancy of San Luis Obispo County, and others;
- ▶ The creation of a landbank program to facilitate the purchase of properties with high quality habitat within the Greenbelt, to be repaid over time from fees on new building permits;
- ▶ Programs for the acquisition of properties within the Greenbelt with significant habitat resources;

## Resumes of Preparers

### **Chris Wm. Clark, JD AICP, Principal**

A planner and a lawyer, Mr. Clark has more than 15 years professional experience in law, land use regulation and environmental and community planning and project management. Prior to joining CMCA, he managed the San Luis Obispo office of Fugro West, an international consulting firm. Mr. Clark also teaches Water Resources Law and Policy, Environmental Law, and Planning Law at Cal Poly San Luis Obispo.

Mr. Clark holds a Juris Doctorate from Franklin Pierce Law Center, Concord, New Hampshire. He holds an M.A. and B.A. from the University of Oregon. He has completed additional graduate work at the Massachusetts Institute of Technology in science and policy. In addition, he has completed continuing education courses in water law, hazardous waste litigation, coastal systems, zoning, wetlands regulations, land development, ground water management, EIR preparation, and impact fees. He is admitted to practice law in California, Massachusetts, and the Federal District Court.

Mr. Clark has written numerous municipal comprehensive plans, EIRs, zoning ordinances, environmental regulations, and ground water management plans. He recently managed preparation of EIRs for the San Luis Obispo, North Coast and Estero Area Plan Updates for the San Luis Obispo County General Plan. The latter two lie within the Coastal Commission's Local Coastal Program jurisdiction. He also has managed the preparation of a new Safety Element for the County of San Luis Obispo general plan, which won the California Chapter APA 2000 Comprehensive Planning Award.

Mr. Clark recently managed an EIS/EIR on behalf of the General Services Administration for a new federal building in San Francisco. He also was assistant manager for a groundwater study in north Monterey County. He has managed numerous environmental projects for Cal Poly, including the preparation of their first EIR. He managed the development of a supplemental EIR for the Los Osos sewer project and was the assistant manager of the Avila Beach/Unocal EIR.

Mr. Clark has worked with various land trust and other land preservation organizations providing assistance in the development of programs and documents (deeds, trusts, conservation easements) designed to institute these organization's objectives. He served as a member of the board of directors of a non-profit land preservation trust.

In his capacity as a planner, Mr. Clark has made over 1,000 public presentations before municipal and county boards, technical committees, citizen groups, and professional conferences. He has continued to refine his skills through his experience as a public speaker, facilitator and project manager.

### **David Moran, Senior Associate**

At CMCA, Mr. Moran has focused on the preparation of general plans, specific plans, and redevelopment plans, and the preparation of environmental documents. He was project manager and principal author of the Buellton General Plan, Redevelopment Plan and EIR; the City of Patterson Redevelopment Plan, and the Soledad Front Street Specific Plan. Mr. Moran is also the environmental coordinator for the Port San Luis Harbor District and has most recently authored environmental documents for a major housing project at Cal

Poly San Luis Obispo and for major annexations to the City of Patterson. In addition to general and specific plan and environmental documents, Mr. Moran has prepared development design guidelines for the cities of Patterson, Buellton, Ventura and Woodland and has prepared illustrations of development standards that have appeared in zoning ordinances for the cities of Buellton, Mountain View and Calabasas, among others.

Mr. Moran also offers past experience in public agency development review, housing programs and air quality management. He worked as an Associate Planner for the City of San Luis Obispo before joining CMCA fourteen years ago. In that capacity he served as project manager for a number of complex development projects, ordinances and general plan revisions. He was the principal staff planner for a variety of special studies involving student housing issues, residential density, affordable housing, specific plans and the city's High Occupancy Residential Use Regulations. Mr. Moran was the project manager for complex and controversial development projects including the restoration and re-use of historic commercial buildings, general plan updates, hospital expansion, and major commercial centers.

Mr. Moran's previous government experience includes work as the staff planner for city of Hollister, where he was responsible for writing and implementing the city's development review and environmental review procedures, incorporating word processing and data base management.

Before entering the urban planning field, he worked as an Air Quality Specialist for Ventura County where he helped establish siting criteria to minimize the air quality impacts of major onshore and offshore oil and gas facilities.

Mr. Moran received his Bachelor of Arts degree from the University of California at Santa Barbara, in physical geography and environmental studies.



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## San Luis Obispo **COASTKEEPER**<sup>®</sup>

County of San Luis Obispo  
Planning Commission  
Sarah Christie, Chair  
County Government Center  
San Luis Obispo, CA 93408

April 20, 2009

VIA EMAIL (Original Hand Delivered)

**Subject:** Los Osos Wastewater Project Final EIR and Development Plan (Proposed)

**COASTKEEPER Position:** Oppose.

Dear Chair Christie and Honorable Commissioners,

Thank you for the opportunity to comment on the County's proposed EIR and Coastal Development plan for the Los Osos Wastewater Project (County File DRC2008-00103).

San Luis Obispo **COASTKEEPER**<sup>®</sup>, a program of Environment in the Public Interest, is organized for the purpose of ensuring that the public has a voice with agencies and official responsible for enforcing water quality, watershed protection, and environmental regulations. As such, SLO Coastkeeper and our 800 Central Coast supporters are concerned that:

1. The significant impacts to Agricultural lands identified in the proposed EIR are avoidable.

The spray field technique proposed by Staff as the effluent disposal/discharge component appears to be the key issue driving the need for agricultural properties of the size targeted for the proposed project. This choice appears to be based on an incorrect analysis that the in-town disposal component designed for the previously permitted LOSCD project of 2001 was inadequate. That system was designed and permitted to discharge a maximum of 1.675 million gallons per day (see p 20 of the attached 2003 "Addendum to the Final EIR for the Los Osos Wastewater Project").

This system was fully reviewed and approved by the all permitting agencies, including the



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May, 2003

**Memorandum**

**TO:** Bruce Buel, General Manager  
Los Osos Community Services District

**FROM:** Dave Moran, Chris Clark  
Crawford Multari & Clark Associates

**SUBJECT:** Addendum to Final EIR for the Los Osos Wastewater Project

Bruce,

The following addendum to the Final EIR has been prepared to address refinements of the project description arising from the design efforts that have occurred since March of 2001. Section 15164 of the State CEQA Guidelines states:

"The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR have occurred."

Accordingly, the decision to prepare this addendum is based on the following:

- The refinements to the project do not require substantial revisions of the previous EIR due to the involvement of new significant environmental effects;
- The environmental circumstances under which the project is being undertaken have not changed;
- There has been no new information raised regarding additional environmental concerns which were not addressed by the previously certified EIR for the Los Osos Wastewater Project;

The entire Wastewater Facilities Project will be subject to all the mitigation measures adopted with the certified final EIR, which are incorporated by reference. For each of the project revisions and refinements we have provided, where relevant, a brief discussion of the associated environmental considerations and how they are addressed by the Final EIR.

## Project Revisions (From November 2000 FEIR to April 2003)

### General

#### A. Phased Construction

The wastewater project was originally anticipated to be constructed in one phase over an 18 to 24-month period. The wastewater project will now be constructed in two sequential phases over a 36-month period. The Phase I construction will consist of the collection system, pump stations, effluent disposal, and harvest well components in Area A and Area B (see Figure 1); the wastewater treatment facility (WWTF); and the Broderson effluent disposal site and associated disposal main. The Phase II construction will consist of the collection system, pump stations, effluent disposal, and harvest well components in Area C and Area D (see Figure 1).

The phased construction is desirable for two reasons. First, the extended construction period offers the Los Osos Community Services District (District) greater opportunities to obtain funding (appropriations and grants) from the State and Federal government. Appropriations and grants become available on an annual basis and the longer timeframe provides the District more opportunities to secure these resources. Second, the longer construction period lengthens the timeframe for construction of the lateral connections to individual properties which, in turn, reduces the demand on local construction contractors and makes the connection process more manageable.

**Environmental Considerations.** The description of construction activities and related components is identical to those characterized by the project description in the FEIR. The change in phasing does not introduce new categories of impacts but merely spreads the activities assessed by the FEIR over a longer timeframe. There are a few 'time sensitive' impact categories evaluated by the FEIR:

- Traffic disruption during construction
- Construction noise
- Construction-related air quality impacts

In each case the significance of the impacts will not change because the duration the construction activities at a given location (the time actually spent doing the work) does not change. Cumulative impacts will be identical as those assessed by the FEIR. In addition, the majority of the work that will contribute to traffic disruption, construction noise and construction related air quality impacts will be completed in Phase I.

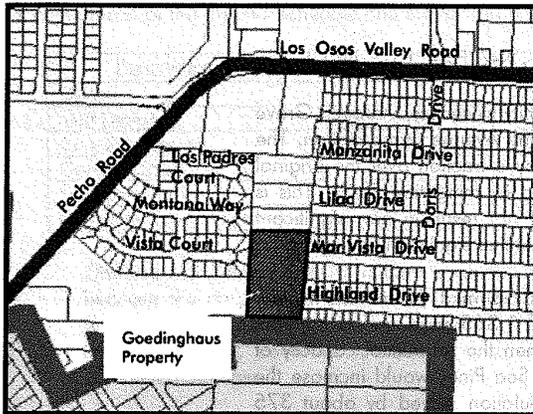
Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.



FEIR, nor will this disposal cause a substantial increase on a previously identified significant effect. The treated wastewater will satisfy the discharge requirements set by the Regional Water Quality Control Board for the wastewater treatment plant.

#### D. Goedinghaus Family Property

The District will annex the Goedinghaus family property at the west end of Highland Drive (see Figure 2). Development of the Goedinghouse property will add 8 single-family residences to the collection area for an equivalent of approximately 2,000 gpd of wastewater flow.



The development of the Goedinghaus property will also include the westerly extension of Highland Drive and Mar Vista Drive with an interconnecting street in the north-south direction. The development will include construction of a sewer main in the new streets that will provide conveyance of wastewater from Highland Drive to the west end of Mar Vista and reduce the amount of sewer main construction as part of the wastewater project. Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

Development of the Goedinghaus Property was approved by the county and was the subject of separate environmental review.

**Environmental Considerations.** This additional wastewater flow associated with development of the Goedinghaus property will have a negligible impact on the wastewater system and does not result in a major revision to the project. (See discussion under Monarch Grove/Sea Pines, above)

#### E. Decommissioning Septic Tanks

The decommissioning of septic tanks in accordance with Code requirements was identified in the FEIR. The cleaning and reuse of septic tanks and their associated leachfield for percolation of rainwater runoff from private residences is under consideration and may be allowed by San Luis Obispo County.

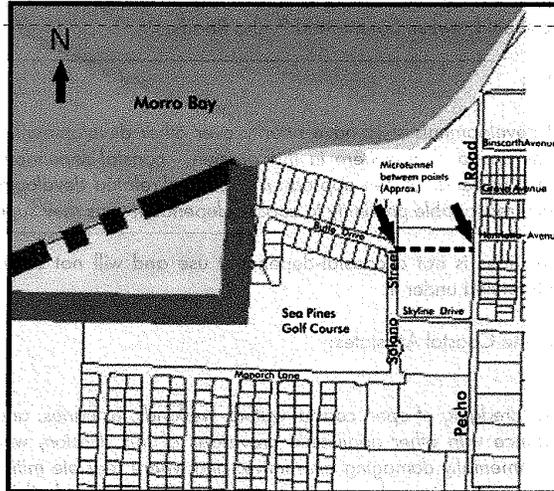
**Environmental Considerations.** This is not a required component of the Wastewater Facilities Project. If the County wishes to consider this in the future, the County would prepare separate environmental review in accordance with CEQA. However, should the county consider this reuse after the tanks are decommissioned or cleaned in conformity with code requirements, it would not result in significant impacts because rainwater drainage is an existing condition and detention of the run off on site would have no effect on the Wastewater system. It could, however, have a beneficial impact on area drainage.

## Collection System

Impacts associated with the construction of the wastewater collection system, including the collection mains, laterals, pump stations and grinder pumps, are addressed by the FEIR and this addendum.

### F. Solano to Pecho Sewer

A sewer main from the north end of Solano Street to the vicinity of the intersection of Pecho Road and Henrietta Avenue will be constructed, which will allow the elimination of the Solano Pump Station. This sewer main segment will be constructed south of an existing wetland using trenchless technology (e.g. microtunneling) to avoid disruption of the overlying sensitive resources. The pipe would be 5 to 8 feet deep and would connect with a gravity sewer in Pecho Road about 30 feet south of Henrietta Avenue. In this way, the overlying resources will not be impacted.



#### Environmental Considerations.

The area in question consists of an isolated wetland formed by a subsurface seep. According to Lisa Mangione of the US Army Corps of Engineers (personal communication), sub-surface tunneling that avoids the resource as proposed would not be subject to the permitting authority of the Corps of Engineers in accordance with Section 404 of the Clean Water Act because:

- 1) the area is non-tidal, and
- 2) the area is an isolated wetland and not remotely associated with any defined drainage (ie, a seep), and
- 3) the route to be tunneled does not cross any drainage channels.

Construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

Potential impacts to biological resources are addressed by mitigation measures BIO-1 to BIO-21, inclusive.

Another issue relates to consistency with relevant Coastal Act (Public Resources Code Sections 30000 et seq.) policies that speak to the protection of environmentally sensitive resources. Section 30240 states:

- (a) *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The proposed micro-tunneling under the resources would be consistent with the protection of the habitat values present between Solano and Pecho Roads.

Section 30255 states:

*Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to coastal-dependent uses they support.*

The proposed sewer lines is not a coastal-dependent use and will not be located within a wetland but will be tunneled under it.

Section 30233(a) of the Coastal Act states:

*The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible<sup>24</sup> less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
- (2) Maintaining existing, or restoring previously dredged depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.
- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.
- (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake or outfall lines.
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
- (7) Restoration purposes.
- (8) Nature study, aquaculture, or similar resource dependent activities.

The proposed activity involves tunneling under and adjacent to a wetland and does not involve diking, dredging or filling.

Section 30233(c) of the Coastal Act further limits development and alteration of wetlands throughout the coastal zone, stating:

*In addition to the other provisions of this Section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19<sup>27</sup> coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.*

The placement of a sewer line underground adjacent to the wetland resources would be a public facility and would not involve diking, filling or dredging.

Section 30240 states:

*a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

*b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat recreation areas.*

The area over which the tunneled pipeline will be placed contains environmentally sensitive habitat. The purpose of tunneling under the resources is to comply with this Section which seeks to protect sensitive resources. The use of the underlying ground is not specifically for a coastal-dependent use (ie, a sewer line). However, the sewer line is necessary to support coastal-dependent uses within the community of Los Osos.

#### **G. Binscarth Sewer**

The diameter of the sewer main segment installed at Binscarth Road from Pecho Road to Doris Avenue will be increased from 12-inch diameter to 15-inch diameter to accommodate the increase in wastewater flow from the addition of Monarch Grove and Sea Pines Golf Resort as described elsewhere.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. Construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

#### **H. Clelland Sewer**

The conceptual collection system assessed by the FEIR shows the installation of sewers to the west end of Highland Drive, Mar Vista Drive, Lilac Drive, Manzanita Drive, and Woodland Drive. A sewer main

constructed north from Highland Drive to Los Osos Valley Road is needed to collect the western segments of the above sewers to avoid the installation of excessively deep sewers or pump stations. This sewer main will be installed in the Clelland Avenue right-of-way (ROW).

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. Construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

## Pump Stations

### I. Submersible Pump Stations

Eleven approximate pump station locations were shown on the conceptual collection system presented in the FEIR. Each pump station was expected to have an associated standby power facility. As the design has advanced, of the ten pump stations, the Solano Pump Station has been eliminated as described elsewhere, seven will be submersible pump stations with standby power facilities as described below, and two will be pocket pump stations as described in item J., below.

Seven submersible pump stations have been identified that will be installed with standby power facilities. Five of these pump stations will be relocated from the preliminary locations indicated on the conceptual collection system presented in the FEIR. The preliminary locations were established based on the expected vicinities of pump stations to serve the collection system. The revised locations have been determined based on additional engineering and property acquisition efforts.

A summary of the original and current locations of the seven submersible pump stations is presented below.

Pump Station	Original Location	Revised Location	Characteristics
Lupine (a)	Mitchell Dr. / Doris Av.	Lupine St. / Donna Av.	Vacant lot
West Paso (b)	4 <sup>th</sup> St. / Pismo Av.	3 <sup>rd</sup> St. / Paso Robles Av.	Street right-of-way
Baywood (b)	1st St. (South end)	2 <sup>nd</sup> St. / El Moro Av.	Street right-of-way
East Ysabel (a)	Santa Ysabel Av. / So. Bay Bl.	Santa Ysabel Av. / So. Bay Bl.	Vacant lot used as detention basin
East Paso (a)	Paso Robles Av. / 16 <sup>th</sup> St.	Paso Robles Av. / 18 <sup>th</sup> St.	Separate environmental review was adopted by the CSD Board, March 2003.
Mountain View (a)	Mountain View / Santa Ynez	Mountain View / Santa Ynez	Street right-of-way
Sunny Oaks (a)	Sea Oakes Mobile Home Park	Daisy Hill Mobile Home Park	Within street right-of-way.

(a) Separate standby power

(b) Shared standby power.

A dedicated standby power facility will be located at the Lupine, East Ysabel, East Paso, Mountain View, and Sunny Oaks Pump Stations that will be located on individual parcels owned or acquired by the District. A single standby power facility located at the District's 3<sup>rd</sup> St. well between Paso Robles Avenue and El Moro Avenue will be shared by the West Paso and Baywood Pump Stations that will be located in street ROW.

**Environmental Considerations.** The project description in the FEIR assumed 11 pump stations. The use of standby power would be temporary and very intermittent and would fall well below the significance thresholds for air quality and noise impacts. One of the pump station locations (at Paso Robles Avenue and 18<sup>th</sup> Street) lies within 1000 feet of a school, which would require an APCD, permit and school notification for diesel emissions in such proximity. For these reasons, this site will employ natural gas to power the pump. With regard to noise, the generators will be housed and muffled and, since they would be operated infrequently and

temporarily, noise impacts are considered less than significant. Potential impacts to sensitive biological resources are addressed by mitigation measures BIO-1 through BIO-21, inclusive.

With regard to the Lupine/Donna Avenue pump station and stand-by power, an investigation prepared by the Morro Group (see attached) indicates wetland plant species occur some 80 feet south of the proposed pump station location. Section 23.07.172(d) of the County's Local Coastal Program requires a minimum 100 feet separation of development from wetlands. Under Section 23.07.172(d)(2) the minimum setback may be adjusted through a Minor Use Permit provided that the following findings can be made:

- i. *The site would be physically unusable for the principle permitted use unless the setback is reduced.*
- ii. *The reduction is the minimum that would enable a principle permitted use to be established on the site after all practical design modifications have been considered.*
- iii. *That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to Section 23.04.118a of this title.*

The CSD has included an application for the setback reduction in the Coastal Development Permit application submitted to the County.



#### **J. Pocket Pump Stations**

The refined project description includes at least two 'pocket' pump stations. Another 10 candidate pocket pump station locations have been identified for a total of 12 potential pocket pump station locations.

Pocket pump stations are small units similar in size and construction to a conventional pump station that serve up to approximately 50 properties. Each pocket pump station will be housed in a vault of 8-12 feet in diameter and will be located within street rights-of-way at a depth of between 8 feet to 20 feet. The pocket pump stations will be installed with extra-large wet wells that will provide 12 hours storage of average day wastewater flow to avoid the installation of standby power facilities. If an electrical power outage were sustained for a period greater than 12 hours, the pocket pump stations could be drained with the use of trailer mounted engine-generators or trailer-mounted pumps.

The pocket pump stations will also minimize the number of grinder pumps to be installed by private property owners. If pocket pump stations are not installed, the likely alternative approach would be to install a low pressure sewer system. A low pressure sewer system would require the installation of grinder pumps for all tributary properties which adds to the construction and maintenance costs for individual property owners. All grinder pumps would discharge into a common pipeline that would convey the wastewater to another point in the collection system where the wastewater can be conveyed by gravity flow.

**Environmental Considerations.** Impacts associated with pocket pumps construction and operation would be similar to those associated with the pump stations and would be mitigated by the following measures:

GEO-1, GEO-2, TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-2, PS-5, BIO-1

#### **K. Solano Pump Station**

The Solano Pump Station will be eliminated with the construction of the Solano to Pecho sewer main as discussed elsewhere.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering.

## Wastewater Treatment Facility (WWTF)

### L. Revised Site Layout

The WWTF layout presented in the FEIR has been revised in some respects. The treatment processes are the same, but the location and orientation of the buildings housing the treatment processes have been reconfigured as shown on the attached figure. The revised site plan is proposed as a means to improve access, operability, and architectural appearance.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. The revised site plan does not raise any new significant impacts (individually or cumulatively) or impacts that are more severe than those assessed by the FEIR because the footprint of the area devoted to the WWT facilities does not change.

### M. Drainage Facility

The WWTF site receives a substantial amount of off-site stormwater drainage. The portion of the play fields needed to handle the off-site drainage is larger than originally identified in the FEIR. The off-site drainage system will consist of a sedimentation basin to remove trash, debris, and silt from the stormwater. The stormwater will overflow to a 2-acre percolation field that will contain and drain a 100-year storm event. The percolation field will function as a play field for public recreation during dry weather.

**Environmental Considerations.** The play fields were anticipated to provide emergency storage in the event of a major storm as assessed by the FEIR. The use of a larger portion of the play fields for stormwater runoff does not raise any environmental impacts not previously addressed by the FEIR. Drainage and construction-related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

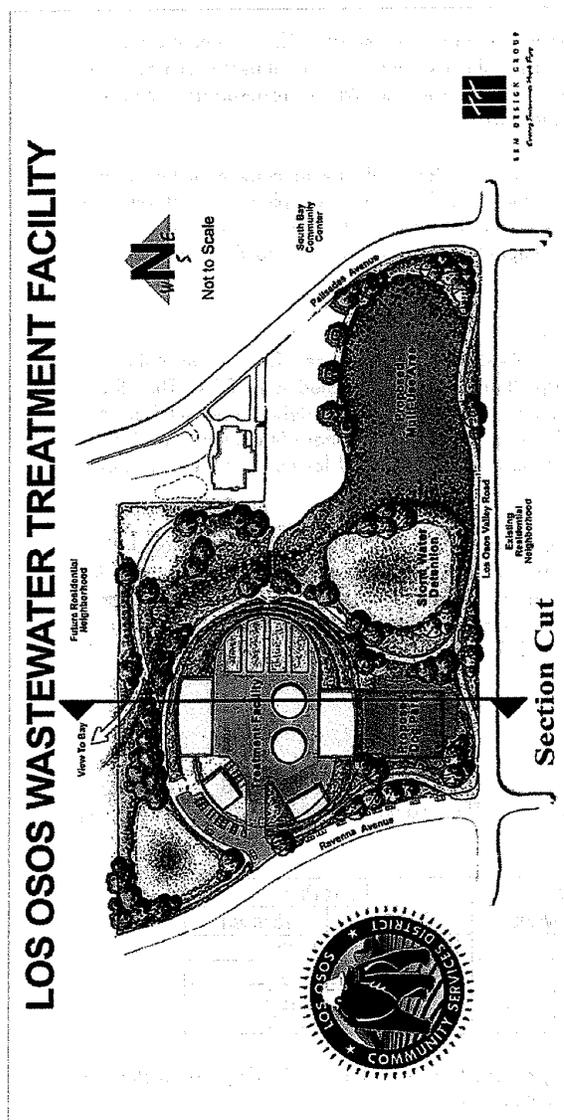
### N. Wastewater Loading

The wastewater loading parameters assumed in the FEIR have been increased to reflect the wastewater characteristics of local wastewater agencies. The original and revised wastewater loading parameters are summarized below.

Parameter	Average Day		Peak Day	
	Original	Revised	Original	Revised
BOD (lb/cap/day)	0.15	0.20	0.19	0.25
TSS (lb/cap/day)	0.15	0.23	0.19	0.29
TKN (lb/cap/day)	NA	0.030	NA	0.038
TN (lb/cap/day)	NA	0.033	NA	0.042

**Environmental Considerations.** These loading parameters are within the loading parameters set for the WWTF and as described in the Project Report.

Figure 4: Revised WWTF Site Plan



**O. Monarch Grove / Sea Pines Package Plant**

The existing Monarch Grove / Sea Pines package wastewater treatment plant will be abandoned with the addition of the Monarch Grove development and the Sea Pines Golf Resort to the wastewater system as discussed elsewhere.

**Environmental Considerations.** The package plant will be abandoned in accordance with State requirements. This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR.

## Effluent Disposal

Each of the following sites has been investigated and no new or more severe environmental impacts have been identified. All of the relevant mitigation measures applied to disposal activities will be applied.

### Q. Sea Pines.

The Sea Pines Golf Resort was identified in the FEIR as a potential site for the use of reclaimed water. The addition of Monarch Grove and Sea Pines as described elsewhere will result in the transfer of 30,000 – 100,000 gpd of effluent to Sea Pines for disposal on a daily basis. Unlike other reclaimed water sites, Sea Pines can accept effluent on a daily basis because of the availability of on-site storage ponds.

**Environmental Considerations.** Effluent will be delivered to the golf course ponds and used for turf irrigation in the same manner that the Monarch Grove / Sea Pines package wastewater treatment plant effluent is currently utilized. This change will not result in additional impacts not envisioned by the FEIR.

### R. Vista de Oro

The Vista de Oro site was identified as an effluent disposal site in the FEIR. The site is an existing leachfield for a community septic tank system which will be converted to an effluent disposal site when the wastewater system is constructed. The site was rated for 25,000 gpd capacity in the FEIR. The site will be re-rated for 20,000 gpd based on the current design criteria.

**Environmental Considerations.** The FEIR assumed 25,000 gpd, so this reduction is consistent with the refinement of the project design during engineering as anticipated by the FEIR.

### S. Los Osos Valley Road/Pine Avenue Site

The Los Osos Valley Road (LOVR) and Pine Avenue site was identified as an effluent disposal site in the FEIR. The use of the LOVR portion of the site is not considered advisable because it would reside in a major traffic corridor.

**Environmental Considerations.** Removing this from the project description will not increase impacts associated with the project.

### T. Broderson Avenue

The use of the Broderson Avenue right-of-way between Los Osos Valley Road and Rosina Avenue was not identified as a disposal site in the FEIR and is now proposed for a 20,000 gallons per day disposal leach field.

**Environmental Considerations.** The use of this right-of-way for disposal leach fields does not raise any new or more severe environmental impacts than those identified in the FEIR.

#### **U. Pismo Site**

The Pismo Avenue site located between 8<sup>th</sup> Street and 15<sup>th</sup> Street was identified as an effluent disposal site in the FEIR. The site was originally established for 100,000 gpd and has been re-rated to 160,000 gpd. The increased capacity takes into account the design criteria that have been developed for the application of treated effluent by percolation methods that are discussed elsewhere.

**Environmental Considerations.** The use of the existing leach field for disposal would not result in additional impacts. Groundwater mounding has been accounted for by the groundwater modeling performed by Cleath and Associates in the FEIR.

#### **V. Santa Maria Avenue Site**

The Santa Maria Avenue site located between 13<sup>th</sup> Street and 18<sup>th</sup> Street was identified as an effluent disposal site in the FEIR. The site was originally established for 75,000 gpd. A portion of 18<sup>th</sup> Street from Santa Maria Avenue to El Morro Avenue has been added. The elimination and re-rating of other effluent disposal sites requires that all available effluent disposal sites be utilized. The combined Santa Maria / 18<sup>th</sup> Street site is rated for 160,000 gpd. The increased capacity takes into account the design criteria that has been developed for the application of treated effluent by percolation methods that are discussed elsewhere.

**Environmental Considerations.** Impacts associated with disposal leach field construction was discussed in the FEIR and will be mitigated by the following mitigation measures:

GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

#### **W. 14<sup>th</sup> Street through 17<sup>th</sup> Street Sites**

The 14<sup>th</sup> Street through 17<sup>th</sup> Street sites located north of Santa Maria Avenue were identified as effluent disposal sites in the FEIR. The use of these sites is not considered viable because of terrain difficulties and will be eliminated as an effluent disposal site.

**Environmental Considerations.** Removing this from the project description will not increase impacts to the project.

#### **X. East Ysabel Site**

The use of Santa Ysabel Avenue east of Scenic Way for an effluent disposal site will be added. The elimination and re-rating of other effluent disposal sites requires that all available effluent disposal sites be utilized. An addition to this site with extension to the north end of Scenic Way will be included to increase disposal capacity.

**Environmental Considerations.** The addition of this site will not create additional environmental effects not anticipated by the FEIR. Impacts associated with disposal leach field construction was discussed in the FEIR and will be mitigated by the following mitigation measures:

GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

### Y. South Bay Site

The use of South Bay Boulevard north of Santa Ysabel Avenue for an effluent disposal site will be added. The elimination and re-rating of other effluent disposal sites requires that all available effluent disposal sites be utilized.

**Environmental Considerations.** Impacts associated with disposal leach field construction was discussed in the FEIR and will be mitigated by the following mitigation measures:

GEO-1, GEO-2, WR-2, C-1, C-2 TR-1, TR-2, AQ-1, AQ-2, N-1, N-2, PS-4, PS-5, BIO-1, BIO-5, BIO-7

**Disposal Site Summary.** The revisions to the effluent disposal sites as discussed elsewhere are summarized below.

Description	Original	Revised
Sea Pines	NA	30,000 gpd
Vista de Oro	25,000 gpd	20,000 gpd
Monarch Grove School	70,000 gpd	
LOVR/Pine	50,000 gpd	
Pine		50,000 gpd
Ziebarth Property	75,000 gpd	
Broderson Avenue		40,000 gpd
Broderson	800,000 gpd	800,000 gpd
Pismo Avenue	100,000 gpd	160,000 gpd
Santa Maria Avenue	75,000 gpd	
Santa Maria Av. / 18 <sup>th</sup> Street		160,000 gpd
14 <sup>th</sup> Street thru 17 <sup>th</sup> Street	100,000 gpd	
Los Osos Middle School	Standby	Standby
El Morro Avenue	175,000 gpd	175,000 gpd
East Santa Ysabel Avenue / Scenic		45,000 gpd
South Bay Boulevard		125,000 gpd
Total	1,400,000 gpd	1,675,000 gpd

**Environmental Considerations.** Since the amount of disposal remains largely the same, with the exception of Monarch Grove/Sea Pines, which is merely a trade between the package plant and the WWTP, the changes to the disposal locations are covered by the FEIR. (Cleath and Associates, *Hydrogeologic Investigation of the Broderson Property, Phase I and II, July 2000, Wastewater Disposal Sites Evaluation, October 2001*)

### Z. Disposal Methodology

The use of horizontal perforated drain pipelines was identified in the FEIR as the effluent disposal methodology. The use of vertical disposal wells as an alternative methodology will be used in street ROWs. The vertical disposal wells require less surface area and reduce the potential for interference with underground utilities.

**Environmental Considerations.** A vertical disposal well consists of a 4-foot diameter boring up to 25 feet deep filled with gravel around a vertical 4-inch diameter perforated pipe into which a disposal main will be emptied. The vertical wells will be constructed using an auger which

will drill a 4 foot diameter boring within a casing that will be removed following excavation and the placement of the 4-inch vertical perforated pipe. A single well will have the equivalent capacity of 200 lf of horizontal perforated pipe that would be installed in a 3-foot wide trench. Thus, vertical leach fields offer a number of environmental advantages that include smaller area of surface disturbance, the use of less heavy equipment for construction with resulting reduced air quality and noise impacts.

It should be noted that vertical disposal wells are not injection wells under pressure, but gravity-fed wells where water will percolate to the groundwater. Vertical disposal wells will be designed and installed so that adequate separation will exist between the bottom of the well and the surface of the underlying groundwater. If necessary, the number of wells may be increased to ensure adequate disposal capacity and separation to groundwater. Use of the vertical disposal wells will be managed in a similar fashion as the horizontal leach fields in which the use of the fields will be rotated to minimize clogging and maintenance costs.

#### **AA. Disposal Main**

The route of the treated effluent disposal main depicted in the FEIR will be revised. The revised route will follow the same general corridors, but will be relocated to different streets in some areas. The revisions are necessary to match the changes in effluent disposal sites described elsewhere and to optimize the alignment and profile of the pipeline where possible.

**Environmental Considerations.** Impacts associated with pipeline construction are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.

## Harvest System

### AB. Harvest Water Extraction

The amount of harvest water to be extracted from the upper aquifer was 400,000 gpd as presented in the FEIR. This harvest water would be extracted from the west side of the service area. Additional harvest water will be extracted from the east side of the service area. Two harvest wells will be added to extract 250,000 gpd from the upper aquifer on the east side as discussed elsewhere.

**Environmental Considerations.** The FEIR anticipated a series of recovery wells on both sides of the inferred trace of the Los Osos fault. Impacts associated with harvest wells are addressed by the FEIR.

### AC. El Morro and East Paso Harvest Wells

Two harvest wells will be added to extract harvest water from the upper aquifer on the east side as discussed elsewhere. The two new harvest wells will be located at El Morro Avenue and 8<sup>th</sup> Street and at Paso Robles Avenue and 18<sup>th</sup> Street.

**Environmental Considerations.** The harvest wells associated with these sites are assessed by separate, project specific environmental documents.

### AD. Use Options

The expected method of handling the harvest water as described in the FEIR is to blend the upper aquifer water with lower aquifer water. The upper aquifer water is expected to be high in nitrates in the early years of operation of the harvest wells. The harvest water would be blended with lower aquifer water that is low in nitrates. The blended water would then have an acceptable nitrate concentration and could be used as part of the drinking water supply for the community. Four additional uses of harvest water have been identified to handle the additional harvest water that will be produced as discussed elsewhere and to provide the District with greater operational flexibility.

**Landscape Irrigation.** One optional use is to utilize the harvest water for landscape irrigation. Use of harvest water at the Sea Pines Golf Resort is an example of a candidate location for this application. The nitrate content in the harvest water would be utilized by plants.

**Environmental Considerations.** The FEIR project description includes surface landscaping irrigation as a potential disposal method and identifies the golf course as one possible location. No additional impacts are anticipated.

**Apply Harvested Water to Effluent Disposal Sites.** A second optional use is to apply harvest water to some of the effluent disposal sites. During the initial years of operation, the wastewater flow that will be received at the WWTF is expected to be approximately 1.0 mgd. The WWTF and effluent disposal system will be designed and constructed to handle 1.4 mgd. Therefore, approximately 400,000 gpd of effluent disposal capacity will be available during the initial years of operation of the wastewater system.

**Environmental Considerations.** No new impacts will result from this disposal alternative.

**Treat Harvested Water.** A third optional use is to discharge limited amounts of harvest water to the wastewater collection system. The WWTF is designed for denitrification, and as discussed above, will

have excess treatment capacity in the initial years of operation of the wastewater system. The treatment of harvest water at the WWTF would help reduce the nitrate concentration.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR.

**Discharge to Bay.** A fourth option is to discharge limited amounts of harvest water to existing District stormwater drainage pump stations located at Don/Mitchell and El Moro/8th St. The harvest water would then be discharged to Morro Bay by the drainage pump stations through existing outfalls. This approach would only be utilized in the early years of operation and could not be sustained for many years to maintain the safe yield of the groundwater basin.

**Environmental Considerations.** If this approach is pursued, the CSD would discharge up to 100,000 gallons per day of harvested groundwater to each of two existing outfall facilities in the Bay during dry weather. According to Sorrel Marks of the Regional Water Quality Control Board (personal communication), such a discharge would be covered by an existing permit issued under Order No. 01-119 and NPDES No. CAG99301 entitled "Waste Discharge Requirements General Permit for Discharges With Low Threat to Water Quality". As the title implies, this permit covers the discharge of (in this case) groundwater to water bodies such as the Morro Bay Estuary that are considered of low threat to water quality. The permit is updated every five years and its issuance was subject to separate CEQA review prepared by the Regional Board. The permit provides examples of low threat discharges that may be covered by the permit. These include:

- Discharges with low flows (less than 100,000 gallons per day);
- Continuous discharge of such things as cooling water, evaporative condensate, and desalination brine;
- Discontinuous flows that may result from water supply well installation, maintenance of water supply wells, landscape and swimming pool water;

For each of these categories, the permit provides maximum daily flow limits. For example, the discharge of cooling water is limited to 100,000 gallons per day per discharge location.

To fall within the *Low Threat* permit described above, the discharge of harvest water to the Bay will be managed so that:

1. Discharge to either existing outfall will not exceed 100,000 gallons per day per outfall location;
2. Discharge will not occur during low tide;

With regard to the potential impact of such discharges to the marine environment, Title 40, Section 125.122(b) of the Clean Water Act: *Determination of unreasonable degradation of the marine environment states:*

*Discharges in compliance with section 301(g), or 316(a) variance requirements or State water quality standards shall be presumed not to cause unreasonable degradation of the marine environment, for any specific pollutants or conditions specific in the variance or the standard.*

In this case, the Regional Board has determined that harvested groundwater meets the State standards for discharge into the Morro Bay Estuary. Accordingly, under Section 125.122(b), it is presumed to not cause "unreasonable degradation" of the marine environment of the Bay.

The following Coastal Act policies are also applicable:

*30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

*30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The policies speak to the issue of protecting the marine environment to sustain biological productivity. Since the water quality of the groundwater being discharged to the Bay will meet water quality standards set by the Regional Water Quality Control Board, adverse impacts to the marine environment are considered not adverse in accordance with 125.122(b) of the Clean Water Act.

#### **AE. Harvest Mains**

The harvest mains that convey water from the harvest wells were limited to alignments between harvest wells and production wells with the use concept identified in the FEIR as discussed elsewhere. The harvest main alignments will be extended to potential points of discharge to irrigation sites, effluent disposal sites, and the collection system as discussed elsewhere.

**Environmental Considerations.** This change is consistent with the refinement of the project design during engineering as anticipated by the FEIR. Construction related impacts are addressed by mitigation measures GEO-1, GEO-2, GEO-3, GEO-9, H-1, WR-1, WR-2, C-1, C-2, TR-1, AQ-1, AQ-2, N-1, N-2, PS-5, AES-1, BIO-1.



April 10, 2002

Mr. Bruce Buel  
General Manager  
Los Osos Community Services District  
2122 9<sup>th</sup> Street  
Los Osos, CA 93402

SUBJECT: *Due Diligence Survey Results*

Dear Mr. Buel:

This letter documents our findings during the brief due diligence biological site assessment conducted on the proposed sewer lift station site at the corner of Lupine Street and Donna Avenue in Los Osos, California. (refer to Figure 1). Per your request, Morro Group biologist Bob Sloan performed a brief survey of Lots 10 and 11 on Lupine Street between Doris Avenue and Donna Avenue on April 3, 2002, to identify any potentially significant biological resource constraints that could affect the proposed project.

Both lots were examined, however the survey concentrated on the 50 by 60 foot eastern portion of Lot 10 proposed for use by the Community Services District. The primary concern focused upon was the presence or absence of wetland areas on or adjacent to the site, however the potential for the presence of special-status plant and animal species, including the Morro shoulderband snail (*Helminthoglypta walkeriana*) was also considered. Please note that formal wetland delineation and Morro shoulderband snail surveys per U.S. Army Corps of Engineers and U.S. Fish & Wildlife Service protocols were not performed as part of this report. The following is a description of our findings:

Existing Conditions

The surveyed lots are located on the southern side of Lupine Street, and are bordered by Doris Avenue to the west, Donna Avenue to the east, and undeveloped property to the south. The lots are rectangular, level, and undeveloped, and are dominated by non-native plant species commonly found in disturbed areas of Los Osos. The two lots appear to have been graded during adjacent residential development, and may have been a receiving site for fill material from dredging operations conducted in Shark Inlet many years ago. Veldt grass (*Ehrharta calycina*), ripgut brome (*Bromus diandrus*), and Bermuda grass (*Cynodon dactylon*), are the dominant plants present, with freeway daisy (*Osteospermum fruticosum*), wild radish (*Raphanus sativus*), and California poppy (*Eschscholzia californica*), also present.

A patch of ice plant (*Carpobrotus edulis*) is present at the corner of Lupine Street and Donna Avenue. No shrubs or trees are present on the two lots.

### Findings

No wetland areas or native coastal scrub habitat for the Morro shoulderband snail (MSS) are present on the two lots. The ice plant present at the corner of Lupine Street and Donna Avenue does constitute suitable non-native habitat for MSS. No live Morro shoulderband snails or empty shells were found during the survey of the two lots, and no special status plant species were observed. Several live common garden snails (*Helix aspersa*) and empty shells were observed during the survey.

The 50 by 60 foot area of Lot 10 at the corner of Lupine Street and Donna Avenue proposed for lift station construction contains approximately 600 square feet of ice plant that could provide suitable habitat for MSS. No other constraints are present within this area. The adjacent undeveloped properties to the south contain a depressionnal wetland area composed of arroyo willow (*Salix lasiolepis*), cattail (*Typha latifolia*), blackberry (*Rubus ursinus*), water parsley (*Oenanthe sarmentosa*), and other common wetland species. The wetland boundary is located approximately 60 feet south of the southern property line of Lot 10, based on the occurrence of wetland plant species. These wetland areas do not contain suitable habitat for MSS.

### Conclusions

Based on the observed site conditions, construction of the proposed lift station at the corner of Lupine Street and Donna Avenue will not impact wetland areas. Construction does have potential to result in "take" of Morro shoulderband snail and approximately 600 square feet of suitable non-native habitat (ice plant). Section 3(18) of the Endangered Species Act defines "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

As defined by the U.S. Fish and Wildlife Service (USFWS), "harm" includes significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering.

#### Recommendations

Prior to and during lift station construction, erosion and spill control best management practices should be implemented at the site. To reduce the potential for inadvertent release of sediment, construction materials, or fuel from construction areas to adjacent wetland habitats, appropriate erosion control devices (i.e., hay bales, silt fences) should be installed around the southern perimeter of the construction zone, and around any gutters leading to the wetland area. Erosion control devices should be checked on a daily basis to ensure proper function. During construction, avoid all cleaning and refueling of equipment and vehicles within the vicinity of the identified wetland habitat.

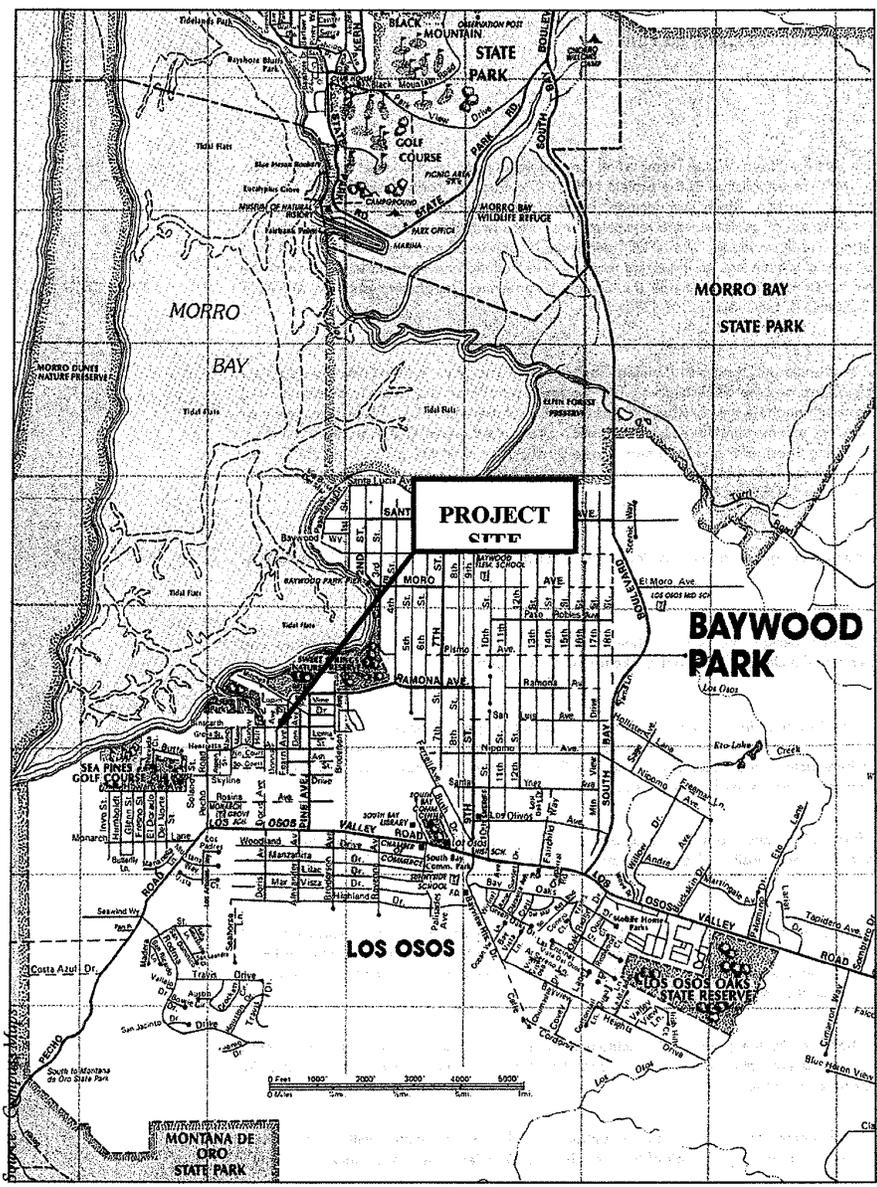
Following completion of construction activities, all disturbed previously vegetated areas should be revegetated with appropriate native plant species to reduce the risk of erosion and sedimentation into adjacent wetland areas.

If you have any questions or comments regarding these findings or recommendations, please do not hesitate to call me at (805) 543-7095.

Sincerely,

MORRO GROUP, INC.

Robert Sloan,  
Resource Specialist



**NORTH**

Not to Scale

**VICINITY MAP**

EIR Project Revisions

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**FIGURE 1** May, 2003

## Adopted Mitigation Measures from the Certified FEIR

### Geologic Resources

- Mitigation GEO-1: An NPDES Construction Activity Storm Water Permit shall be obtained prior to the onset of construction activities. Appropriate BMPs, as established in the project NPDES Construction Storm Water Permit, shall be employed during project construction, which may include, but are not limited to, temporary sand bagging; construction of berms; installation of geofabric, and revegetation of areas by hydroseeding and mulching; and the use of trench stabilizing and de-watering. The NPDES permit shall apply to all proposed facilities, and shall address 50 to 100-year precipitation events to the extent feasible. The Pollution Prevention Plan portion of the NPDES permit shall be reviewed and approved by the County Engineering Department and the RWQCB. (Impacts GEO-1, GEO-2, GEO-4, GEO-5, GEO-6, GEO-11)
- Mitigation GEO-2: Project implementation shall include a long-term Erosion Control Plan. The plan shall include the treatment plant site, the collection system, and the disposal sites. The Erosion Control Plan shall identify erosion control practices to be implemented throughout the construction and operation of these facilities. These measures may include, but are not limited to, recompaction of soils; revegetation of disturbed areas; utilization of soil binding; or other methods for reducing short-term and long-term erosion. The Plan shall be reviewed by the County Office of Planning and Building, and shall be included in contractor bid and contract documents. (Impacts GEO-1, GEO-2, GEO-4, GEO-5, GEO-6, GEO-11)
- Mitigation GEO-3: All proposed facilities shall be designed and constructed in accordance with UBC Seismic Zone 4 regulations. (GEO-8, GEO-12)
- Mitigation GEO-4: Prior to finalization of project design, the LOCS D shall consult with the California Division of Mines and Geology CDMG to determine the Design Basis Earthquake for system components. (GEO-8, GEO-12)
- Mitigation GEO-5: Prior to construction, a geotechnical investigation shall be carried out as part of final facility design. This geotechnical investigation shall include analysis of the proposed treatment plant site, the disposal system, and the collection system, where determined necessary by the LOCS D and governing regulatory agencies. The geotechnical investigation shall address the following issues:
1. Design of facility foundations and walls such that potential impact associated with fault rupture onsite would be reduced to the extent feasible. Design measures for rapid repair of facilities shall be identified as necessary.
  2. The investigation shall determine onsite ground water levels, and identify soil layers that could be subject to liquefaction during a seismic event. Specific measures, such as excavation/recompaction of foundation areas, long-term dewatering, or utilization of foundation piles, should be identified as necessary to reduce potential impacts to a less than significant level.
  3. The investigation shall identify the potential for settlement or lurching associated with seismic events. Specific measures, such as excavation/recompaction, shall be identified as necessary to reduce potential impacts to a less than significant level.
  4. The investigation shall identify the potential for disruption of collection associated with fault rupture. Design measures for isolation and rapid repair of facilities shall be identified, where necessary.
  5. The County Engineering Department shall review and approve the scope and findings of the geotechnical investigation, and shall review final project design to ensure incorporation of recommended measures.

(Impacts GEO-7, GEO-8, GEO-12)

Mitigation GEO-6: Implementation of CDMG Liquefaction Mitigation. Where determined necessary by geotechnical investigations, design of system components shall incorporate recommendations contained in the CDMG publication "Guidelines for Evaluating and Mitigating Seismic Hazards in California." Mitigation cited in this publication include recompaction of liquefiable soils and use of reinforced shallow foundations. (Impacts GEO-3, GEO-9)

Mitigation GEO-7: Prior to construction, a complete grading and drainage plan shall be submitted to the LOCSD and County Department of Planning and Building for review and approval. Such grading and drainage plan shall address the requirements of the geotechnical investigation described in Measure GEO-5, above. (Impact GEO-6, GEO-9, GEO-5)

Mitigation GEO-8: Rehabilitation of disposal leach fields shall be rotated so that no more than one field is under re-construction at a time. (Impact GEO-13)

Mitigation GEO-9: In addition to the long-term erosion control plan cited in Measure GEO-2, above, plans for the Broderson disposal site shall designate access routes for review and approval by the LOCSD which intrude minimally into the landscape. Plans shall include prompt re-vegetation of disturbed areas. (Impact GEO-13)

### Hydrology/Groundwater Resources

Mitigation H-1: NPDES Permit. The LOCSD will obtain and comply with an NPDES permit from the RWQCB and will develop an SWPPP for the project, which will include, among other requirements, the identification of Best Management Practices (BMPs) to be used for erosion control, actions for control of potential fuel or drill tailing release, and requirements for disposal (i.e., location, quality) of water from dewatering activities. (Impact H-1, H-5)

Mitigation H-2: Revegetation Plan. A comprehensive revegetation plan will be developed for the Broderson site, which at a minimum, will include re-planting of exposed surfaces with native vegetation. (Impact H-5)

Mitigation H-3: The Los Osos Community Services District shall prepare and implement a comprehensive water management plan for the Los Osos groundwater basin. The purpose of the plan is to identify management strategies aimed at achieving a sustainable water supply to serve buildout of the community in accordance with the Estero Area Plan, as it may be amended from time to time (H-5).

### Drainage

Mitigation WR-1: Grading, Drainage and Erosion Control Plan. Construction plans for the Tri-W site shall include a complete grading and drainage plan incorporating the recommendations of a geotechnical engineering evaluation (see Mitigation GEO-5). Measures to be considered for the mitigation of potential drainage, erosion, seepage and water quality impacts include, but are not limited to:

1. The incorporation of an on-site runoff collection system which includes energy dissipation, berms, temporary settling basins, and/or a silt/hydrocarbon separator for the collection and removal of hazardous materials and sediments.
2. The incorporation of an on-site drainage system to collect runoff from all impervious onsite services, including parking spaces, roads and buildings.
3. Surface runoff should be collected by curbs, gutters and drainage swales and conveyed to an appropriate point of disposal. Discharges of greater than five feet per second should be released through an energy dissipater or outlet.
4. The incorporation of sub-surface drains to intercept seepage and convey it to an acceptable point of disposal.
5. Watering the site at least twice per day during construction, or more frequently if determined necessary by the LOCSD.
6. Re-vegetating portions of the site exclusive of paved areas as soon as reasonable following grading.

7. Incorporating rain gutters and downspouts for buildings.
8. Grading surfaces adjacent to buildings so that runoff is conveyed away from foundations and onto paved surfaces or underground collection pipes.

(Impacts WR-2,WR-4, WR-5)

Mitigation WR-2: NPDES Permit. The LOCSD will obtain and comply with an NPDES permit from the RWQCB and will develop an SWPP for the project, which will include, among other requirements, the identification of Best Management Practices (BMPs) to be used for erosion control, actions for control of potential fuel or drill tailing release, and requirements for disposal (i.e., location, quality) of water from dewatering activities. (Impacts WR-6, WR-7, WR-8, WR-3,WR-2, WR-1)

Mitigation WR-3: Revegetation Plan. A comprehensive revegetation plan will be developed for the Broderson and Powell sites, which at a minimum, will include re-planting of exposed surfaces with native vegetation.(Impact WR-6)

### Cultural Resources

Mitigation C-1 Undiscovered Resources. All cultural resources discovered during construction must be avoided in order to eliminate any potential impacts. All work in the vicinity of the suspected resource will stop and the proper authorities will be notified. Prior to restart of work, a qualified archaeologist will determine the significance of the resource. Suggested measures for mitigation shall be adhered to. If the resource is suspected to contain human remains, the County Coroner and an approved Native American consultant shall be contacted to determine the nature and significance of the find.(Impacts C-1, C-2, C-3)

Mitigation C-2 Archeological Monitoring. If a resource is discovered and an area is deemed potentially sensitive, archaeological monitoring will be required. The monitoring shall be conducted by a qualified archaeologist recognized as such by the County of San Luis Obispo with sufficient experience with local archaeological resources to make accurate determinations if cultural resources are exposed.

In addition, in all areas determined to be sensitive because of prehistoric remains, a Native American monitor should be present as well. The presence of Native American monitoring will assist in identification of archaeological resources, should they be encountered. More importantly, the Native American monitor will act as a representative of the local tribe (Obispeño or Northern Chumash) in the event that human remains or traditional cultural properties are encountered. If such remains are found, they would assist in the decision making process and would act as a consultant on issues related to state and local applications of the Native American Graves Protection and Repatriation Act (NAGPRA) and the American Indian Religious Freedom Act (AIRFA).

Finally, if significant resources are discovered, efforts will be made by local law enforcement as well as designated monitors to prevent looting of the sites by non-professionals.

(Impacts C-1, C-2, C-3)

### Traffic and Circulation

Mitigation TR-1: Construction Traffic Mitigation Plan. The LOCSD shall prepare a construction traffic mitigation plan which identifies the location of equipment and trenches to be used; sequencing/phasing of installation; the location of materials and equipment staging areas; and proposed detour routes. The plan shall also provide for adequate emergency access, and routing of construction-related vehicles to minimize impacts to sensitive land uses. The plan shall also provide for the scheduling of construction related traffic so that it does not create safety hazards to school children and other pedestrians. (Impacts TR-2, TR-3)

Mitigation TR-2: Public Notice of Construction. The public shall be notified of potential obstructions and alternative access provisions. This notification may be accomplished by posting signs near the construction area at least one week in advance of the commencement of construction. In addition, information signs shall be posted on Los Osos Valley Road, with a phone number to call for questions. Phone inquiries shall be answered by a live public relations official, and not a pre-recorded message. Alternative access provisions and parking will be provided where necessary, with guide signs to inform the public. There will also be alternative pedestrian facilities provided to avoid obstruction to pedestrian circulation. (Impacts TR-2, TR-3)

#### Air Quality

Mitigation AQ-1. Equipment Emission Control Measures. The applicant shall fully implement CBACT for the highest emitting piece of diesel-fired heavy equipment used to construct each major component of the proposed project. It is expected that tandem scrapers or tracked tractors would be the highest emitters. CBACT includes:

- Fuel injection timing shall be retarded 1.5 to 2.0 degrees from the manufacturer's recommendation;
- High pressure fuel injectors shall be installed in all engines;
- Reformulated diesel fuel shall be used on the project site;
- Ceramic coating of the combustion chamber;
- Installation of catalytic converters;

In addition, Caterpillar pre-chamber, diesel-fired engines (or equivalent low NO<sub>x</sub> engine design) shall be used in heavy equipment used to construct the project to further reduce NO<sub>x</sub> emissions. These requirements shall be noted on the grading plan and listed in the contractor and subcontractor contracts. If implementation of such measures is not feasible within the time-frame mandated for the proposed project, other vehicle fleets would be considered as alternatives, subject to APCD approval. At a minimum, if the above CBACT or an equivalent are not considered for mitigation, all heavy duty equipment operation onsite should have the timing retarded 4 degrees. (Impacts AQ-1, AQ-2)

Mitigation AQ-2. Dust/PM10 Control Measures. Dust generated by construction activities shall be kept to a minimum by full implementation of the following measures:

- During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems are to be used to prevent dust from leaving the site and to create a crust after each day's activities cease;
- During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the morning and after work is completed for the day and whenever wind exceeds 15 miles per hour;
- Stockpiled earth material shall be sprayed as needed to minimize dust generation;
- During construction, the amount of disturbed area shall be minimized, and onsite vehicle speeds should be reduced to 15 mph or less;
- Exposed ground areas that are planned to be reworked at dates more than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established;
- After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately by watering or revegetating or spreading soil binders to minimize dust generation until the area is paved or otherwise developed so that dust generation will not occur;
- Grading and scraping operations shall be suspended when wind speeds exceed 20 mph (one hour average);
- All roadways, driveways, and sidewalks associated with construction activities should be paved as soon as possible. In addition, building and other pads shall be laid as soon as possible after grading unless seeding or soil binders are used. (Impacts AQ-1, AQ-2)

Mitigation AQ-2. Best Available Technology. Project implementation shall be designed to conform with energy efficiency requirements outlined in Title 24 of the California Code. To the extent feasible, design of the proposed project should incorporate best available technology for energy efficiency. Additionally San Luis Obispo County APCD recommends the following measures be implemented to further reduce or offset long term emissions:

Mitigation AES-3: Landscaping Plan. A final landscaping plan shall be prepared for the entire project site and approved by the County prior to building permit issuance for the Tri-W site. Said landscaping plan shall emphasize native plant materials and shall include sufficient planting to screen views of the project from nearby roads and residential developments. The goal for the landscaping plan shall be to visually integrate the project into the community by creating a park-like setting, while preserving and enhancing existing views. (Impact AES-4)

Mitigation AES-4: Revegetation Plan. A revegetation plan shall be prepared to the satisfaction of the US Fish and Wildlife, California Department of Fish and Game and San Luis Obispo County for the 8-acre portion of the Broderson site that will be disturbed by the installation of the disposal leach fields. The plan shall be prepared by a qualified landscape architect and/or botanist and shall, to the extent feasible, restore the site to its condition prior to disturbance. (Impact AES-4)

Mitigation AES-5: Lighting Plan. A final lighting plan shall be prepared for the treatment facility. The lighting plan shall meet County design standards. This shall include proper shielding, proper orientation and applicable height standards. (Impact AES-5)

### Biological Resources

Mitigation BIO-1: Where construction will necessitate disturbance in undeveloped lots, wetlands and other potentially sensitive areas, a pre-construction survey will be conducted to assess and minimize any potential impacts. (Impact BIO-2)

Mitigation BIO-2: Loss of Wintering Monarch Butterfly Roost Sites. The project proponent shall avoid habitat where feasible. A qualified monarch butterfly specialist will conduct preconstruction surveys for the monarch butterfly during the months of October to February. Potential roost sites that could be affected during construction will be fenced. (Impact BIO-5, BIO-14)

Mitigation BIO-3: Loss of Raptor Habitat. The project proponent will conduct a preconstruction survey for nesting raptors. Depending on the timing of construction, the project proponent will conduct a preconstruction survey during spring or early summer (April to early July) to determine whether nesting raptors or species protected by State and/or Federal law are present on or within the project area. Winter surveys are also recommended and should be done by a qualified wildlife biologist. If the survey results indicate that nesting raptors or protected species are present on or within the project area, the nest tree or area will be fenced or otherwise demarcated and a 500-foot no-disturbance buffer will be established until the nesting activity is completed and the young have fledged. The distance and placement of the buffer area will be determined in consultation with the CDFG. Only after nesting activities have ceased will construction be allowed to continue. All potentially suitable nesting trees will be removed prior to the breeding season. (Impact BIO-7, BIO-16)

Mitigation BIO-4: Mitigate for Loss of Coastal Scrub Habitat. Agency Consultation/Permitting. Project implementation would result in direct or indirect disturbance or potential take of several federal and state listed species. Project implementation would require authorization for this disturbance or potential take from both the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Authorization requirements are outlined below:

- A. USFWS. Authorization for take by USFWS would require formal consultation with USFWS pursuant to section 7 of the Endangered Species Act.
- B. CDFG. Authorization for take by CDFG would require a Memorandum of Understanding (MOU) and Management Authorization (MA) pursuant to Section 2050 et seq. of the California Fish and Game Code. Development of a MOU/MA would be based upon the Section 7 USFWS consultation discussed above.

C. Acquire Additional Habitat. As part of the consultation efforts described above, the District will acquire additional habitat sufficient to compensate for the loss of habitat of the Morro shoulderband snail, Morro Bay kangaroo rat, Morro Bay blue butterfly, and other species dependent upon the coastal scrub habitat due to the direct impacts of the project. The land acquired should have the following qualities:

- ▶ The preferred site for mitigation is the northerly Broderson parcels, subject to the eight acres of leach fields. This habitat mitigation is for all direct impacts except from any leach fields constructed on the east side of the inferred fault.
- ▶ The land should be habitat in or contiguous to the proposed critical habitat area as designated by the USFWS. Ideal land that meets this criteria is located around the community of Los Osos in the area studied for the greenbelt program by the Land Conservancy.
- ▶ Any disturbed portion of the land should be capable of restoration to a native habitat. This would mean that the soils have not been removed or fill placed on the site that are unsuitable for the native plantings (other than small amounts). The land should be free of structures or debris, or capable of being cleared of any structures.
- ▶ The land should have primarily aeolian sand deposits; be in a stabilized condition (not mobile); have an open canopy; be of the appropriate aspect and other meteorological conditions.
- ▶ The land should be granted to an appropriate agency or conservation organization in perpetuity with deeded guarantees of non-development or transfer (unless to another like organization). The protection of the land may allow for some passive public activities, such as hiking, scientific investigation, and low-impact education.

D. Restoration. After securing the land, the District should restore the land so that it functions as suitable habitat for many of the local species of plants and wildlife described in this EIR whose existence is endangered or of concern. One of the benefits of this mitigation approach is that a single program will mitigate the impacts to all or most of the species described in the setting section. Restoration of the land should include the following:

- ▶ Removal of invasive exotic plant species. This may mean removal of all plants by grading, or a program of hand labor, depending upon the condition of the land. If the amount of invasives is relatively small, the work should leave as much of the existing native vegetation intact.
- ▶ Removal of structures or debris.
- ▶ Regrading of any unnatural mounds, holes or berms previously created on the site.
- ▶ A planting program of a mixture of indigenous plant species that serve to restore the site and serve multiple species' needs, especially the Morro shoulderband snail, Morro Bay blue butterfly, Black legless lizard, and potential future re-introduction of the Morro Bay Kangaroo Rat. This will include Dune Lupine for the Morro Bay blue butterfly. The final planting program should be developed in consultation with CNPS, CDFG and USFWS.
- ▶ An ongoing maintenance and observation program.

(Impact BIO-4, BIO-6, BIO-8, BIO-12, BIO-17, BIO-19, BIO-20)

Poly San Luis Obispo and for major annexations to the City of Patterson. In addition to general and specific plan and environmental documents, Mr. Moran has prepared development design guidelines for the cities of Patterson, Buellton, Ventura and Woodland and has prepared illustrations of development standards that have appeared in zoning ordinances for the cities of Buellton, Mountain View and Calabasas, among others.

Mr. Moran also offers past experience in public agency development review, housing programs and air quality management. He worked as an Associate Planner for the City of San Luis Obispo before joining CMCA fourteen years ago. In that capacity he served as project manager for a number of complex development projects, ordinances and general plan revisions. He was the principal staff planner for a variety of special studies involving student housing issues, residential density, affordable housing, specific plans and the city's High Occupancy Residential Use Regulations. Mr. Moran was the project manager for complex and controversial development projects including the restoration and re-use of historic commercial buildings, general plan updates, hospital expansion, and major commercial centers.

Mr. Moran's previous government experience includes work as the staff planner for city of Hollister, where he was responsible for writing and implementing the city's development review and environmental review procedures, incorporating word processing and data base management.

Before entering the urban planning field, he worked as an Air Quality Specialist for Ventura County where he helped establish siting criteria to minimize the air quality impacts of major onshore and offshore oil and gas facilities.

Mr. Moran received his Bachelor of Arts degree from the University of California at Santa Barbara, in physical geography and environmental studies.

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