TARGHEE, INC.

ENVIRONMENTAL CONSULTING

VIA FACSIMILE -- ORIGINAL ON FILE WITH CITY CLERK

December 15, 2008

Mayor and Members of the Long Beach City Council
City of Long Beach
333 West Ocean Boulevard, 14th Floor
Long Beach, California 90802

RE: Agenda Item 08-1272
Tuesday, December 16, 2008 City Council Meeting
Hearing for consideration of an appeal of the Planning Commission decision to approve a 45,101 square-foot church expansion, 3332 Magnolia Avenue. (District 7)

Dear Mayor Foster and Members of the Long Beach City Council:

I urge that you uphold the Planning Commission decision to (1) certify Mitigated Negative Declaration (No. 08-08) and (2) **overturn staff recommendation for further mass reduction in Condition 24 and eliminate restriction to non-diesel-powered replacements in Condition 25** as these requirements apply to the Site Plan Review and Standards Variance process and (3) allow development of a 45,101 square-foot, two-story church to proceed without additional hardships being imposed.

The applicant Pacific Baptist Church ("Church") has asked me to speak on its behalf during its time allotment at the Hearing scheduled for Tuesday, December 16, 2008 as part of its project team, not as a member of the public. City staff has requested that the Church keep its remarks brief. For this reason, I am submitting this request for your consideration prior to the Council Meeting, but would like this letter and documentation to be made a part of the administrative review record.

Issues

1. Compliance with the Principles of Sustainability as Related to the Parking Plan and Use of Shuttle Vehicles
2. Condition 24 as it applies to the California Environmental Quality Act (CEQA) Process
3. Condition 25 as it applies to restrictions placed on the Applicant that are without regulatory, scientific or technical merit

Facts

Planning staff prepared a negative declaration because no substantial evidence exists or was presented during the administrative review process to make a determination that:

1. A parking plan based on use of satellite lots and shuttles is an unsustainable practice;
2. The mass of the proposed building represents a visual impact that significantly degrades the existing visual character by adversely affecting a scenic vista or degrades the visual character of the neighborhood; or

3. Hazardous levels of emissions would impact an existing or proposed school within one-quarter mile of the project site.

With respect to Item 1 above, Melanie Smith, Vice Chair of the Planning Commission, commented that use of satellite parking lots with shuttle transport is an element of sustainable land use. Making better use of underutilized parking facilities during hours of non-use is environmentally preferable to building a parking garage where the current lot is located on church property because this newly constructed garage would also be grossly underutilized most of the time.

With respect to Item 2 above, the Planning Commission did request that modification to the stairwell area be incorporated into the design to break up the mass to its satisfaction (Condition 24). This design change has been implemented and requests for additional design changes are not feasible without imposing a hardship on the Church. Furthermore, requesting further re-design at this late date is a violation of the intent of the CEQA process and denies the Church its right to a speedy, objective decision on the part of the lead agency. Had the Planning Commissioners felt that the mass of this building would have a significant impact on the visual character of the neighborhood, it would not have certified the Negative Declaration.

With respect to Item 3 above, I submitted the results of a study that I conducted using a field screening instrument to measure emissions from the Pacific Baptist Church shuttles and buses. I made field measurements with a portable analyzer and compared emissions from these vehicles with those coming from the City's hybrid buses. The emissions were comparable. The results of this study were made part of the administrative review record prior to the Planning Commission certification of Negative Declaration 08-08.

The findings of my emissions study are also substantiated by a white paper entitled *Emission Control Technologies for Diesel-Power Vehicles*. The Executive Summary is attached as Exhibit 1. I wish to incorporate this document published by the Manufacturers of Emissions Controls Association in its entirety into the administrative record. It clearly demonstrates that for the type of use proposed by the Church a diesel-powered vehicle is comparable with other clean vehicle technologies.

I would also like to incorporate by reference several additional publications. Copies of the title pages of the guidance books commonly consulted by environmental professionals are attached to this letter as Exhibit 2 and listed below:

1. **Environmental Impact Assessment**, L.W. Canter, ed., McGraw-Hill Book Company, 1977
2. **Guide to the California Environmental Quality Act (CEQA)**, M.H. Remy, T.A. Thomas, S.E. Duggan and J.G. Moose, Solano Press Books, Point Arena, CA, 1990 (Fourth Edition)
3. **CEQA Deskbook: A Step-by-Step Guide on How to Comply with the California Environmental Quality Act,** R.E. Bass, A.I. Herson and K.M. Bogdan, 1999 (Second Edition), Solano Press Books, Point Arena, California
4. **The NEPA Book: A Step-by-Step Guide on How to Comply with the National Environmental Policy Act,** R.E. Bass, A.I. Herson and K.M. Bogdan, 2001 (Second Edition), Solano Press Books, Point Arena, California

Rationale

When this matter came before the Planning Commission, the opponents to this expansion project failed to identify any threshold of significance in the Initial Study that warranted an appeal of the decision to certify the Mitigated Negative Declaration. To effectively participate in the CEQA review process, members of the public are required to address the sufficiency of the document in identifying and analyzing possible significant environmental impacts and how they may be avoided or mitigated.

Helpful comments disclose additional possible impacts, alternatives, or mitigation measures for those project features that exceed thresholds of significance. Members of the public that offer testimony or submit written materials are expected to explain the basis for their comment and support their posiitons by presenting substantial evidence such as data, references, expert opinion or other facts.

Substantial evidence does not include argument, speculation, unsubstantiated opinion or narrative; evidence that is clearly erroneous or inaccurate; evidence of social or economic impacts that do not contribute to or are not caused by physical impacts on the environment.

In developing threshold criteria in environmental impact analysis, speculation, indirect physical changes to the environment, public controversy, economic and social effects and existing plan build-out are not relevant factors in making a determination under CEQA.

Under the legal doctrine known as "exhaustion of administrative remedies", a court generally will not allow a person or organization to bring a legal challenge to an agency's decision unless that person or organization has participated during the agency's administrative review process (Pub. Res. Code. Sec. 21177). Additionally, exhaustion of administrative remedies requires that a person who prepares written or oral comments on an environmental document must allege specific violations of CEQA procedures or findings.

Conclusions

None of the materials submitted by the appellants as of this date refuted the threshold decisions made by planning staff in preparing the Initial Study. Letters from opponents and their testimony before the Planning Commission did not meet the CEQA standard of substantial evidence and cannot now be used to overturn the Planning Commission decision to certify the Negative Declaration, require even more design changes than requested by the Planning Commission and specify that the replacement shuttles cannot be diesel-powered. The latter requirement (Condition 25) exceeds the City's regulatory authority in such matters.

My findings lead to the following conclusions:

1. Based on the Church's past performance in virtually eliminating parking impacts to the neighborhood and the principles of sustainability, the proposed use of underutilized satellite lots, small passenger shuttles and vans does not negatively impact local air quality.
2. The mass of the building is not inconsistent with those of adjacent structures (three-story condominium with step-down to two stories on southern elevation and multistory buildings on the northern and eastern elevations) and does not have a negative visual impact on the neighborhood. Condition 24 as it applies to the remarks made by the Planning Commission has already been met. The City Council should overrule staff and accept the design as presented at this Hearing. Condition 25 should be modified.
3. The restriction to limit new shuttle vehicles that do not employ diesel-power is not within the City's regulatory authority and has no scientific or technical merit.

Therefore, I urge that you uphold the Planning Commission decision to (1) certify Mitigated Negative Declaration (No. 08-08), (2) approve the Site Plan Review and a Standards Variance for the property located at 3332 Magnolia Avenue for the purpose of allowing development of a 45,101 square-foot, two-story church, (3) overturn staff recommendation for further mass reduction in Condition 24, (4) eliminate restriction on diesel-powered replacements in Condition 25 and (5) make your decisions regarding the proposed project in accordance with legal doctrine known as "exhaustion of administrative remedies".

Qualifications as an Environmental Professional

Also attached to this letter as Exhibit 3 is a copy of my California Registered Environmental Assessor certification document issued by the California Environmental Protection Agency, Department of Toxic Substances Control and my *curriculum vitae.* In addition to a degree in chemistry and advanced post-bacheloriate training in analytical methodologies, I have a certificate in Strategic Environmental Management from the University of California, Irvine. Included in my 38 years of professional experience, is work as the Director of an environmental laboratory that tested hundreds of soil, water and air samples on a weekly basis. Prior to being appointed to this position, the California Department of Health Services had to review and accept my qualifications for serving in that capacity. My responsibilities as a Laboratory Director included ensuring the quality and legal-defensibility of laboratory findings prior to release of reports to clients.

Additional Qualifications

I am currently serving a four-year term on the City of Long Beach Sustainability Commission. I was a member of the Environmental Task Force that made the recommendation in the Long Beach 2010 Strategic Plan that the City adopt a Sustainable City Policy and appoint a commission. As a member of the Task Force, I was on the Sustainability subcommittee that studied the subject.

Closing Remarks

I am not a member of this Church and am offering my services *pro bono*. Since 1986, I have been a resident of the Wrigley District and drive past the Church campus at least two-to-three times per week.

The opposition to the proposed project have falsely claimed that the Church has been unresponsive to public input. The first meeting that I attended regarding this matter was in May 2007. In follow-up presentations at both Wrigley Area Neighborhood Alliance and Wrigley Association meetings, the Church responded to all of the comments and has been very cooperative with planning staff and the community. At the Wrigley Association Board meeting, one of the Board members reported that when she canvassed neighbors in the immediate vicinity of the Church, no one complained of parking problems resulting from Church operations. Negative parking impacts were attributed to visitors to the nearby multistory senior living facilities.

In addition, the project opponents have also stated that the Church routinely routes diesel buses with toxic emissions through the neighborhoods. This comment is false. Furthermore, last minute conditions that were imposed earlier this month give the appearance of impropriety. One of the appellants works for the Development Services Department and was quoted at the Wrigley Association June Board meeting as stating that if the Planning Commission approves the project, he/she would pay for the appeal. This position was taken before release of the Initial Study and all of the facts and additional design modifications to reduce the mass were made public.

Thank you for your time and consideration of these comments. If you have any questions, please contact me by telephone at (562) 435-8080 during business hours or by e-mail (jvg@targheeinc.com).

Very truly yours,

Joan V. Greenwood

Joan V. Greenwood, REA #08155

cc: City Clerk, City Attorney

Exhibit 1

Emission Control Technologies for Diesel-Powered Vehicles

December 2007

Manufacturers of Emission Controls Association
1730 M Street, NW * Suite 206 * Washington, D.C. 20036
www.meca.org
www.dieselretrofit.org

Executive Summary

Diesel engines are important power systems for on-road and off-road vehicles. Most heavy-duty trucks and buses are powered by a diesel engine due to the long record of reliability, high fuel-efficiency, and high torque output. Diesel engines are easy to repair, inexpensive to operate, and extremely durable. It is not uncommon for a diesel engine to last 15-20 years and achieve a one million-mile life. From the standpoint of greenhouse gas emissions, diesel engines can compete with other advanced technologies, like hybrid electric vehicles, due to diesel's inherent fuel economy relative to conventional spark-ignited, gasoline engines. Diesel-powered vehicles have demonstrated a 30-40 percent fuel economy advantage over their gasoline counterparts. This translates to about a 20 percent reduction in CO_2 emissions.

While diesel engines have many advantages, they have the disadvantage of emitting significant amounts of particulate matter (PM) and oxides of nitrogen (NOx) into the atmosphere. Diesel engines also emit toxic air pollutants. Health experts have concluded that pollutants emitted by diesel engines adversely affect human health and contribute to acid rain, ground-level ozone, and reduced visibility. Studies have shown that exposure to diesel exhaust causes lung damage and respiratory problems and there is increasing evidence that diesel emissions may cause cancer in humans.

Companies that manufacture emission controls have responded to the challenge of reducing air pollution from diesel engines. Through their efforts, cost-effective technologies have been developed to reduce harmful emissions. In the mining, materials handling and trucking industries, in urban bus fleets, ports, construction, and freight, diesel emission control technologies have demonstrated their ability to significantly reduce unwanted emissions at reasonable costs without jeopardizing vehicle performance. Manufacturers of Emission Controls Association (MECA) member companies, together with engine manufacturers, have worked together to meet the 2007 requirements proposed by EPA on May 17, 2000 in the new highway heavy-duty diesel engine (HDDE) "2007/2010 Rule." These advanced heavy-duty powertrains were introduced in January 2007, with further improvements expected in 2010. Clean diesel technologies are also entering the North American light-duty vehicle fleet, with many vehicle manufacturers targeting diesel passenger car and light-duty truck launches in the 2008-2010 time frame. MECA member companies are also preparing for the next big challenge of emission reductions from off-road engines to meet upcoming federal Tier IV regulations.

Interest in diesel emissions control has grown considerably in recent years as agencies such as the U.S. EPA and California's Air Resources Board (ARB) put forth new regulations and funding to clean up existing and new vehicles. MECA has received many inquiries regarding the installation of emission controls on diesel engines. Inquiries have included requests for technical information, information on past experiences, the types of control technologies available, the suitability of a given technology to a particular application, and the emission reductions that can be achieved. This document has been prepared to supplement information already made available by

MECA on emission control technologies and provides an overview of the types of technologies being developed for new diesel cars and trucks, including their operating and performance characteristics.

Available Control Technologies

Today, viable emission control technologies exist to reduce diesel exhaust emissions from both new engines and vehicles, as well as in-use engines through the use of retrofit kits. The major technologies are listed below. Technologies designed to control particulate matter (PM) include:

- Diesel oxidation catalysts (DOCs)
- Diesel particulate filters (DPFs)
- Closed crankcase ventilation (CCV)

Technologies designed to control oxides of nitrogen (NOx) include:

- Exhaust gas recirculation (EGR)
- Selective catalytic reduction (SCR)
- Lean NOx catalysts (LNCs)
- Lean NOx traps (LNTs)

The descendents of early two-way catalysts for gasoline engines that were used to oxidize hydrocarbons and CO are oxidation catalysts. Diesel oxidation catalysts have been installed on engines for well over 20 years in millions of retrofit applications and tens of millions new vehicles worldwide. Although originally developed to reduce gaseous emissions such as HC and CO, oxidation catalysts have demonstrated 20-50 percent reductions in total particulate matter on a mass basis.

Diesel particulate filters, including flow-through and wall-flow designs, have achieved a significant experience base, with more than 200,000 DPFs installed as retrofits and over 4 million installed as original equipment on passenger cars in Europe. Wall-flow filters are being installed on all new heavy-duty trucks in the U.S. starting in 2007. While flow-through filters are capable of achieving PM reduction of about 30 to 75 percent, high efficiency wall-flow designs can capture well over 90 percent of the particulate. Both types of filters are capable of trapping the sub-micron, ultrafine particles capable of penetrating deep into the lungs. Recently, the Association for Emissions Control by Catalysts (AECC) conducted test programs for particle size and number on light-duty and heavy-duty vehicles using the procedures outlined in the European Particle Measurement Program (PMP). The results of the testing demonstrated the efficiency of wall-flow filters to reduce engine out particle number by three orders of magnitude at a filtration efficiency of 99.9 percent.

Due to its smog and ozone forming ability, NOx has become a target for new and used vehicle regulations. Exhaust gas recirculation (EGR) has been developed to achieve the lowest possible engine out emissions. EGR is capable of achieving up to 50 percent

reduction in NOx emissions. Lean NOx catalysts (LNCs) are able to reduce NOx by 10-40 percent using hydrocarbons present in the exhaust, or supplemented via injection into the exhaust stream, as the reductant. LNC technology is attractive because it can be easily applied without the need for core engine modifications or additional reductant infrastructure. Lean NOx traps (LNTs) are capable of achieving upwards of 80 percent NOx reduction. This technology traps NOx as an alkaline earth nitrate compound supported on the substrate and uses on-board fuel injected into the exhaust stream to periodically regenerate the trap and emit nitrogen.

Selective catalytic reduction (SCR), using urea as a reducing agent, has also been installed on diesel-powered vehicles. SCR is capable of reducing NOx emissions from 75 to 90 percent while simultaneously reducing HC emissions up to 80 percent and PM emissions by 20 to 30 percent. SCR systems are available on most Euro IV and V compliant heavy-duty trucks in Europe. SCR technology has been selected by several engine manufacturers for meeting the upcoming U.S. 2010 on-road regulations. Numerous demonstration projects intended to commercialize SCR systems for vehicles in the U.S. are underway at this time.

Any emission control solution used by an engine manufacturer for meeting either the U.S. 2007 or 2010 heavy-duty highway regulations or the U.S. Tier 2 or California LEV II light-duty vehicle emission regulations will be based on a combination of technologies discussed in this paper. Furthermore, a number of other engine-based strategies, not covered in detail here, are also likely to be employed to combine fuel economy, emissions, and space constraints into a systems approach to develop a complete emission strategy for diesel-powered vehicles.

Although diesel emissions from mobile sources have raised health and welfare concerns, a number of effective control strategies exist or are being developed that can greatly reduce the emissions from diesel-powered vehicles. All of the aforementioned technologies have been successfully demonstrated on both on-road and non-road vehicles. These technologies can greatly reduce particulate matter, oxides of nitrogen, and other harmful pollutants from diesel exhaust. Although similar technologies exist for reducing emissions from in-use engines (see the MECA white paper entitled "Retrofitting Emission Controls on Diesel-Powered Vehicles (April 2006)"), this white paper will focus on technologies and approaches currently installed on or being developed for new diesel-powered vehicles to meet existing and/or upcoming emissions regulations.

Exhibit 2

ENVIRONMENTAL IMPACT ASSESSMENT

LARRY W. CANTER
University of Oklahoma

McGRAW-HILL BOOK COMPANY
New York St. Louis San Francisco Auckland Bogotá Düsseldorf
Johannesburg London Madrid Mexico Montreal New Delhi Panama
Paris São Paulo Singapore Sydney Tokyo Toronto

1990 (Fourth) Edition

Guide to the California Environmental Quality Act

(CEQA)

Michael H. Remy
Tina A. Thomas
Sharon E. Duggan and
James G. Moose

Solano Press Books
Point Arena, California

CEQA Deskbook

1999 [Second] Edition
Includes 2001 Supplement

Third printing
April 2002

Solano Press Books
Post Office Box 773
Point Arena, California 95468
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IMPORTANT NOTICE

Before you rely on the information in this book, please be sure you have the latest edition and are aware that some changes in statutes, guidelines, or case law may have gone into effect since the date of publication. The book, moreover, provides general information about the law. Readers should consult their own attorneys before relying on the representations found herein.

The NEPA BOOK

A step-by-step guide on how to comply with the
National Environmental Policy Act

2001 (Second) Edition

Ronald E. Bass
Albert I. Herson
Kenneth M. Bogdan

Solano Press Books

Exhibit 3

State of California
California Environmental Protection Agency
Department of Toxic Substances Control

Joan V. Greenwood

has fulfilled the requirements for registration as a
Registered Environmental Assessor I (REA I)

Date Registered: April 10, 2006

Registration Number: 008155

Maureen F. Gorsen, Director
Department of Toxic Substances Control

45R-2(11-03)

12203-0363 11-03

Joan V. Greenwood, REA
Environmental Consultant
110 Pine Avenue, Suite 925
Long Beach, CA 90802
Tel: (562) 435-8080

Professional Qualifications:

Joan Greenwood has over 25 years of program and project management experience. Since joining Targhee in 2000, she has developed particular strengths in strategic environmental program planning, environmental quality management programs (ISO 14001), technical evaluations and environmental risk communications. Ms. Greenwood is familiar with all levels of CEQA and NEPA documentation including Categorical Exemptions/Categorical Exclusions, Initial Studies/Environmental Assessments, Mitigated Negative Declarations/Findings of No Significant Impacts, and Environmental Impact Reports/Environmental Impact Statements. She has a certificate in strategic environmental management from the University of California, Irvine, where she completed courses in CEQA/NEPA compliance, environmental modeling and risk assessments. In June 2006, she participated in a two-day advanced workshop on CEQA offered at UCLA.

Ms. Greenwood is an analytical chemist with over 35 years of professional experience. She has extensive expertise implementing sampling and analysis projects requiring knowledge of Standard Methods for Drinking Water, EPA SW-846 Test Methods for Solid Wastes (soils, wastewater, surface and ground waters) and field measurement techniques such as immunoassays and x-ray fluorescence. These methods are all applicable to site characterization using the U. S. EPA ***TRIAD*** Strategy.

From 1974 through 1990 as a technical manager for several manufacturers of scientific instrumentation, Ms. Greenwood developed and revised analytical methods, made recommendations for new products, critiqued and recommended changes to user interfaces, wrote training manuals for equipment and data systems, and conducted numerous workshops and training courses throughout the world.

She has given lectures at universities and at meetings of professional societies and commercial real estate groups on emerging topics of interest. She has published papers on analytical methodologies in peer-reviewed professional journals.

Professional Experience (Environmental Management):

TARGHEE, INC.
SEPTEMBER 2000 TO PRESENT

PROJECT MANAGER, EMERGING ENVIRONMENTAL ISSUES – Focuses on emerging environmental management issues: stormwater and urban runoff Best Management Practices (BMPs), metal ecotoxicity, industrial ecology, healthy community initiatives, phytoremediation, and Brownfield programs; keeps staff up-to-date on a wide range of pending technical and regulatory issues that may have major impact on Targhee's clients; under the supervision of an REA II, assists in collecting, organizing, and analyzing data for soil and groundwater investigations and remediation projects; gathers, reviews, and interprets data; accurately produces proposals, letters, and reports; investigates NCP, NEPA and CEQA issues; prepares Quality Assurance Project Plans and work

plans for project manager review; conducts monitoring of soil-vapor extraction remediation systems in compliance with South Coast Air Quality Management District permits; oversees well abandonments conducted by subcontractors; prepares Storm Water Pollution Prevention Plans for remediation sites; and reviews fact witness depositions describing hazardous materials management practices and field investigations as part of Targhee's litigation support practice.

PREVIOUS EXPERIENCE

ACCOUNT MANAGER/REGIONAL TECHNICAL SPECIALIST-- Developed new products and methods for field instrumentation and process monitoring (Photoionization Analyzers, Gas Chromatographs and X-Ray Fluorescence Spectrometers) widely used for environmental monitoring; traveled to industrial facilities throughout the Western United States to assist in fence line monitoring application development at major chemical plants.

PRINCIPAL CONSULTANT/PROJECT MANAGER -- Provided project management services and to a wide range of clients and process-scale purification systems for biopharmaceuticals; assisted a factory in the central area of the People's Republic of China with technology sourcing and financial assistance from the world bank for an animal feed additive manufacturing facility

LABORATORY DIRECTOR/PROGRAM MANAGER – Managed a staff of 35 specialists responsible for analyzing over 1,000 soil and groundwater samples per week in accordance with U.S. EPA and Regional Water Quality Control Board requirements; implementing a Total Quality Management ("TQM") program, providing technical oversight of a plan for improving database management systems for tracking laboratory project files; reviewing project files and reports to ensure compliance with the company's national QA/QC protocols and client-specified contract requirements; conducting training courses covering the U.S. EPA Data Quality Objectives ("DQO") process, chain-of-custody requirements and selection of appropriate analytical methods and overseeing sampling and analysis programs conducted by geologists and engineers responsible for environmental investigations, groundwater monitoring programs and remedial actions at local refineries and retail fuel stations

Education:

- B. A. Chemistry, Wheaton College, Norton, Massachusetts, 1970
- Certificate in Environmental Management (240 hours of evaluated learning), University of California, Irvine, April 2005
- Northeastern University (300 hours of evaluated learning in graduate-level chemistry courses), Boston, Massachusetts,1971-1973
- Babson College, Wellesley, Massachusetts (180 hours of evaluated learning in graduate-level courses in communication and business management), 1974-1975

Registrations:

REA I #08155

Publications and Presentations (Partial List):

- *Brownfields Basics*, January 2005 General Meeting of the Realty Investment Association of Orange County
- *Brownfield Programs for Redevelopment of Contaminated Properties*, CRIA Certification Program Workshop, Realty Investment Association of Orange County, October 2004
- *Water Quality Indicators in Urban Rivers and Estuaries: A Rigorous Scientific Approach for Monitoring and Assessments Conducted by Volunteers*, Headwaters to Oceans Conference, Long Beach, October 2003
- *Sustainability and the Environment: A Transdisciplinary Approach to Urban Planning*, University of Southern California, Guest Lecturer (undergraduate course in urban planning), April 2003
- *Photosensitized Reactions of Thymine and Uracil*, Undergraduate Thesis, 1970

Seminars and Workshops:

- OSHA Hazardous Waste Operations and Emergency Response 40-Hour Training and Annual 8-hour Refresher Courses
- *AAI & Liability: Prepare, Preserve and Protect*, Environmental Data Resources, Inc., March 2006
- *Use of California Human Health Screening Levels (CHHLS) in Evaluation of Contaminated Properties*, California EPA, March 2005
- *California Land Reuse and Revitalization Act of 2004*, California EPA, March 2005
- *Property Due Diligence: Tools of the Trade*, Environmental Data Resources, Inc., April 2004
- University of California, Los Angeles, Extension School of Public Policy: *Land Use and Planning: Updates, Trends and Assessments*; *Habitat Conservation Planning*, *CEQA Update 2002*, *CEQA Compliance Workshop*
- University of California, Irvine, Extension Program: *Chemical and Physical Principles of Environmental Management*, *Biological Principles of Environmental Management*, *Legal and Regulatory Framework of Environmental Management*, *Computer Modeling Lab* (Environmental Applications of Air, Water and GIS Programs), *Assessment and Remediation of Environmental Contamination*; *Introduction to Environmental Assessments and Auditing*, *Environmental Applications of Risk Management* and *Environmental Land Planning and Management*
- AEHS, Inc., Conference (Workshops and Seminars for CEUs): *Analysis of Petroleum Hydrocarbons in Soils*, *Bioremediation*, *Methane Gas: Technical and Legal Challenges to Residential and Commercial Development*, *Brownfields Redevelopment: Opportunity v. Risk*, *Remediation Strategies for Hydrocarbon Contaminated Soils and Groundwater*, *Practical Remediation of Volatile Organic Compounds in Soils and Groundwater*, *Challenges to Contaminant Transport Models for Soils*, 1992-2001
- *Project Management for Environmental Professionals*, Groundwater Technology, Inc., 1991
- *Health and Safety Training for Project Managers*, Groundwater Technology, Inc., 1992

- *Legacy Project*, California Resources Agency, Southern California Session, 2002
- *Achieving Success in the TMDL Program*, Los Angeles Regional Water Quality Control Board, September 29, 1999
- *Beyond BMPs: Integrated Storm Water Management Opportunities for Multiple Benefits in the Chino Basin*, Chino Basin Watermaster, July 25, 2001
- California Chamber of Commerce, Hazardous Waste Management Workshop, 1992
- American Chemical Society, Two-Day Workshops: *Environmental Law and Regulations*, *Environmental QA/QC* and *Laboratory Health and Safety*, 1992-1993

Pro Bono Consulting and Advisory Appointments:

- Sustainable City Commission, City of Long Beach, February 2008 -- present
- Environmental Advisory Commission, State Senator Alan Lowenthal, May 2006 -- present
- Community Representative, Land Use and Transportation Element Update Planning Initiative, City of Long Beach, September 2004 -- present
- Water Quality Committee, Los Angeles and San Gabriel Rivers Watershed Council (2002-2003)
- Technical Advisory Committee, City of Long Beach 6th Street and DeForest Park Wetlands Feasibility Study (2001-2002)
- San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC) Watershed Open Space Plan -- Working Group Member (2002)
- Initiating Committee and Stakeholder Group Representative: Long Beach Community Partnerships 4 Results directed by the National Civic League (2000-2002), development of performance measurements and progress indicators
- Non-voting governing board liaison for Friends of the Los Angeles River to the Los Angeles and San Gabriel Rivers Watershed Council (March 2001- November 2002)
- Steering Committee, Long Beach Beautiful Campaign (February 2001-2002)
- Environmental Chair: Wrigley Association, Long Beach (1995-present)
- Water Resources subcommittee chair and Sustainable City Program subcommittee member: *Long Beach Strategic Plan 2010* Environmental Task Force (1999-2000
- Community Representative: *Los Angeles River Alternative Flood Control Study*, Los Angeles County Department of Public Works (1996-97)
- Community Representative: Long Beach Naval Complex Restoration Advisory Board (1994-1996)
- Community Representative: *Stormwater Best Management Practices Study* at the Los Angeles Zoo (1999-2000)