



EDUCATION

*University of Texas at Austin,
B. S. Civil Engineering, 1975*

*University of Texas at
Arlington,
M. S. Civil Engineering, 1984*

REGISTRATION

*Professional Engineer:
Texas No. 48237*

PROFESSIONAL HISTORY

*Alan Plummer Associates,
Inc., 1998 – Present
Sr. Project Manager
Principal*

*EMCON, Inc., 1984 – 1998
Project Manager*

*Texas Department of Health,
1976 – 1984
Regional solid waste and
water system evaluator*

PROFESSIONAL AFFILIATIONS

*American Water Works
Association*

*Water Environment
Federation*

*Texas Association of Clean
Water Agencies*

*Western Coalition of Arid
States*

Rex Hunt is a Principal with Alan Plummer Associates, Inc. (APAI). He offers a wide range of engineering experience, gained in over 33 years as a civil engineer. Rex's career has included environmental and civil engineering projects in water resources, water quality, development and assessment of water supply management strategies, drought planning and management, water reuse, and water-quality modeling, and total maximum daily load (TMDL) projects.

Rex is familiar with east Texas, including the Sabine Lake Estuary. Currently, he is preparing an analysis of bay and estuary inflow targets for Sabine Lake recommended by the Texas Parks and Wildlife Department. The analysis includes a review of the TPWD report and a comparison of target inflows to naturalized freshwater inflows, historical freshwater inflows, and drought-of-record inflows.

In addition, Rex has experience in water quality, hydrologic and aquatic habitat studies as they relate to bay and estuary inflows. He manages a project to provide independent review and analysis of ongoing research on freshwater inflows to the Nueces Estuary in Corpus Christi. This project includes working closely with researchers from the University of Texas Marine Science Center and Texas A&M Corpus Christi, and staff at the City of Corpus Christi in a water quality, aquatic biota, and estuary vegetation monitoring and modeling study.

He is also currently assisting clients to determine how to address discharges to impaired water bodies [i.e., the 303(d) list], as well as how to manage water quality under TMDLs. These projects are in both marine and freshwater environments. This work requires an understanding of water quality standards, model development, and interpretation, data development and interpretation, and utilization of water quality data to develop best management practices that are cost-effective to implement.

Rex also manages APAI's water and wastewater projects for power suppliers, including several in the east Texas area. In these projects, Rex has worked closely with clients to develop water supply strategies, plan for the management of wastewater, obtain required wastewater permits, and assess the environmental conditions of proposed project sites. These projects have required close coordination with environmental regulators to maintain the typically tight schedules for power plant development projects.

MUNICIPAL SOLID WASTE

Mr. Hunt has extensive experience in municipal solid waste engineering. He began his engineering career with the Texas Department of Health, in the Municipal Solid Waste Bureau, working with solid waste permittees and operators throughout north Texas. Since joining a consulting firm in 1984, he has worked on numerous solid waste projects in Texas. These projects have ranged from permitting proposed landfills to closure and remediation of existing landfills. Some of these include the following.

- Project Manager for the remediation of a closed landfill for the City of Austin, Texas. The site had been a clay strip mine prior to the 1950s and was filled after closure of the mining operation. The location became part of Zilker Park, a major recreational facility for the City. The project required assessment of current conditions at the site, including hydrogeological interpretation, analysis of water and soil samples, and determination of the extent of waste operation.
- Engineer of record for the planning, design, and permitting of a 2200-acre municipal solid waste landfill for Corpus Christi, Texas. The project included assessment of environmental, traffic, and land use conditions at the site and in the surrounding region. Extensive study of site and regional geology, hydrogeology, surface drainage, and other physical characteristics was also required. The design of the facility included design of an 800-acre fill area for the landfill, facility operations center, and related site infrastructure, as well as a long-range plan for site development. Extensive negotiations with nearby landowners were required for this project in order to prevent public opposition to the site.
- Project manager for the development of the Irving Local Solid Waste Management Plan. The project required a detailed analysis of the Irving solid waste utility by a team of consultants led by Alan Plummer Associates, Inc. and Reed-Stowe, and Yanke, LLC. Mr. Hunt was responsible for overall management of the project and for the analysis of the utility's disposal operation. This included a review and analysis of the design and operation of the City's landfill, as well as a review of alternatives for waste transfer, regionalization, and privatization. The plan integrated the various aspects of the City's solid waste management practices and established a comprehensive set of recommendations for Irving's solid waste management system. Throughout the project, Mr. Hunt worked closely with the client to receive and incorporate public input and comment.
- Engineer of record for the design and permitting of two major expansions of a privately operated municipal solid waste landfill located in Texas. The project included extensive study of on site and regional geology, hydrogeology, surface drainage, and other physical characteristics of the site. The amendments of the permit also required assessment of potential impacts of the site on traffic, land use, and various environmental conditions on and near the facility.
- Project Manager for a landfill project located in south Texas. The project included liner construction quality assurance for an eight-acre cell and an evaluation of options for increasing the site capacity of the site. The evaluation included options for various height increases with site life estimates and cost estimates for each option. The liner construction quality assurance project was completed and the liner approved with minimal comment from the TNRCC.
- Project Manager for a biosolids composting design project in east Texas. The project included an inventory of available feedstock sources for biosolids and bulking materials; the conceptual design of the composting facility; projections of cost for development and operation of the facility; and regulatory issues.
- Expert witness for solid waste disposal and management issues for the permitting of a municipal solid waste management facility in north Texas. The project included review of permitting documents and landfill design documents, providing expert testimony related to the design, construction, and operation of the facility, and providing engineering support for the permitting of the facility.
- Conducted a study of alternatives for management of water treatment plant sludge for a major water provider in north Texas. The project required an evaluation and projection of solids generation, analysis of numerous potential management alternatives, development of life-cycle cost projections and development of recommendations.
- Engineer of record for the preparation of a registration for a water treatment plant sludge land application site for a major municipality

in west Texas. This project also includes a study of long-range alternatives for the management of water treatment sludge.

REGIONAL WATER PLANNING

Rex has managed APAI's work with several regional water planning groups in Texas. He has evaluated potential water quality impacts for numerous water management strategies, developed water management strategies to address shortages resulting from existing water quality problems, and evaluated environmental impacts from various water management strategies.

His regional water planning experience includes the following:

REGIONAL WATER PLAN – REGION I

Rex currently serves as Project Manager for APAI's work in this region, and has been on the consulting team for Region I during the second and third rounds of regional water planning, in which he has performed environmental analysis of potential water management strategies, and developed recommendations regarding unique stream segments and unique reservoir projects. Tasks have included evaluation of water management strategies, evaluation of environmental impacts associated with water management strategies, and technical support for the preparation of the regional water plan. Currently, he is preparing an assessment of potential environmental and water quality impacts associated with the movement of water from the Toledo Bend Reservoirs to reservoirs in other areas. He is also preparing an analysis of bay and estuary inflow targets for Sabine Lake established as part of the third round of regional water planning for Region I. The analysis includes a review of the TPWD report establishing the targets, and a comparison of target inflows to naturalized freshwater inflows, historical freshwater inflows, and drought-of-record inflows.

REGIONAL WATER PLAN – REGION B

Rex served as Project Manager for APAI's role in this region. APAI had several tasks in its role as a team member for this Senate Bill 1 project. APAI was responsible for preparing a summary of existing planning efforts in the region, assisting with development of drought management plans for over 50 communities in the region, and development of the region's response to the State's program for unique stream segments and reservoir sites. In addition, APAI assisted with developing strategies for municipal water management and preparing general

recommendations for selecting water management strategies for inclusion in the plan.

REGIONAL WATER PLAN – REGION F

Rex served as Project Manager for APAI's role in this project. APAI evaluated the current state of agricultural irrigation in the region and projected irrigation water use for the planning period. This resulted in a substantial modification of the State's previous projection of irrigation demand. APAI also developed a regional water management strategy for municipal water use for an area currently served principally by groundwater. The primary aquifer in the area is naturally high in radioactive isotopes, and may become unusable as a sole source due to regulatory prohibitions. A strategy was developed to link the individual public water systems and bring various combinations of treated surface water and new groundwater supplies to the area. APAI also evaluated numerous regional strategies for suitability with a environmental, regulatory, and technical criteria.

WATER CONSERVATION AND REUSE

Water conservation and reuse have become increasingly important consideration as available water has become more difficult to find. APAI is a leader in projects to improve conservation and reuse. Rex has prepared reclaimed water notifications; assisted clients with planning and permitting necessary to accomplish water quality implications associated with reuse. Representative examples include:

CITY OF GARLAND CITY-WIDE 210 REUSE NOTIFICATIONS

The project included the development of a Reuse Notification in accordance with 30 TAC 210 requirements of the State of Texas. This was a City-wide 210 notification involving two independent municipal wastewater plants. In addition, the City was working with a private power supplier located outside the City to provide a substantial amount of treated effluent to the power plant for cooling purposes.

NORTH TEXAS POWER PLANT PROJECT

Rex managed a project for a private power producer to develop a plan to use treated wastewater effluent to meet the plant's substantial need for water in the power plant. This innovative project included two alternatives for disposal of the plant's wastewater (primarily cooling tower blowdown). One alternative

involved the return of the blowdown to the wastewater treatment plant from which the reclaimed water originated. The other alternative involved the discharge of the blowdown to a receiving stream. Industrial pretreatment permits were required for the project, as was a discharge permit from the state. APAL successfully negotiated with the TCEQ for mass limits only for water quality parameters including CBOD, ammonia-nitrogen, and total dissolved solids. The project required the development of several mathematical models for the purpose of predicting the impact of the blowdown on the wastewater treatment plant and on the receiving stream.

WATER QUALITY PERMITTING, TOTAL MAXIMUM DAILY LOADS, AND WATER QUALITY STANDARDS

Rex has worked closely with clients and regulators to develop effective permitting strategies, to plan for the management of wastewater, obtain required wastewater permits, and assess the impact on water quality in receiving streams. He has managed and provided technical support for numerous wastewater permitting and reuse projects that involved specialized water quality issues including both municipal and industrial wastewater permits, and assess the impact on water quality in the receiving stream. Rex's permitting experience includes:

GREENWOOD WASTEWATER TREATMENT PLANT TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

Rex has assisted the City of Corpus Christi with permitting for an expansion of the Greenwood WWTP required an amendment of the existing permit. Rex managed the preparation of the permit and worked closely with the TCEQ to obtain an acceptable draft permit within a short period of time after the application was submitted. The permit amendment was opposed by a downstream landowner. Rex assisted the City and its attorney with issues associated with the protest. Ultimately the City was able to negotiate an agreement with the landowner and the permit was issued.

ALLISON WASTEWATER TREATMENT PLANT TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

Rex assisted the City of Corpus Christi to finalize a draft permit for the Allison WWTP. The draft permit proposed by the TCEQ contained several

unacceptable provisions related to ammonia limitations and whole effluent toxicity. Rex worked closely with permitting staff at the TCEQ and Region VI of the EPA to come to an agreement on permit language and provisions.

CITY OF CORPUS CHRISTI MUNICIPAL SEPARATE STORM SEWER WATER QUALITY EVALUATION AND PERMIT RENEWAL

Rex analyzed storm water quality data for the City of Corpus Christi Phase I Municipal Separate Storm Sewer (MS4) permit and assisted with the renewal of the MS4 permit. The project required the evaluation of the existing storm water management program (SWMP). Rex also worked closely with representatives of the Texas Commission on Environmental Quality (TCEQ) during this process. Using the results of the evaluation of the system, Rex assisted the City with locating new monitored outfall locations, negotiating more effective seasonal monitoring terms, and other changes to the SWMP that would increase the effectiveness of the program.

WASTEWATER TECHNICAL SUPPORT, FOR GILLELAND CREEK BACTERIA TOTAL MAXIMUM DAILY LOAD

Rex assisted the City in a stakeholder process for the Gilleland Creek Bacteria Total Maximum Daily Load (TMDL). He provided advice and consultation on the Stormwater, Natural Resources, and Monitoring Subcommittees for the development of the TMDL Implementation Plan. He is also assisting the City evaluate its ongoing bacteria monitoring program for Gilleland Creek.

HAMBY WASTEWATER TREATMENT PLANT POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

Rex has assisted the City of Abilene in several renewals/amendments associated with the Hamby WWTP permit. One renewal required extensive negotiation with the TCEQ to revise requirements for effluent irrigation on onsite and offsite properties. Effluent irrigation issues were negotiated with the Groundwater Team at the TCEQ.

CITY OF AMARILLO TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

Rex managed a project that has included permit amendments for Amarillo's two municipal wastewater plants and a wastewater reuse notification. The project required converting wastewater reuse

authorization from within the TPDES permits themselves to a citywide 30 TAC 210 authorization. In addition, one of the permits contained an effluent quality limit for mercury. APAI studied effluent quality data for a ten-year period and concluded that the mercury limit was inappropriate and unnecessary. Both the TCEQ and EPA agreed with the conclusions of the study and the mercury limit was removed.

SAN JACINTO RIVER AUTHORITY TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

Rex has worked closely with the San Jacinto River Authority on TPDES permits for its three wastewater treatment plants in The Woodlands, Texas. These permits have been renewals, but with specific water quality issues associated with them. On one plant, Rex managed a study that evaluated a receiving water body for the capacity to accept wastewater effluent with copper. The project required water quality testing and evaluation to determine the effect of natural hardness in the water on copper toxicity. As a result of the project, a corrected copper water quality criterion for the water body was adopted by the TCEQ. For another plant, the EPA federalized the permit because SJRA objected to provisions related to Whole Effluent Toxicity (WET) testing requirements and the TCEQ agreed with SJRA. Rex has continued to work closely with both state and federal regulators to receive favorable provisions in the permit.

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM AND SECTION 404 PERMITS FOR PRIVATE POWER PLANT PROJECT IN EAST TEXAS

Rex was the Project Manager for a project involving development of a comprehensive environmental permitting schedule, water supply evaluation, wastewater discharge permitting, assessment of alternatives for routing of water supply and wastewater discharge pipelines, environmental assessment of the project site and easements, and 404 permitting for the site and proposed easements. APAI also coordinated a water quality study of the nearby river that will serve as both the raw water supply and the receiving stream for the wastewater discharge. The project required extensive modeling to determine potential impacts of the discharge on the receiving water and the impact of returning the cooling water to the receiving stream above the water intake for the plant. The study demonstrated that there would be no significant impact on water quality in the

stream. As a result, the TPDES permit was issued with no numerical limit for dissolved solids.

CITY OF BORGER TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

APAI was retained by the City of Borger to prepare an application to amend their TPDES permit in order to remove an inappropriate water quality limit for mercury. Rex managed this project that has required extensive review of mercury concentrations in the City's wastewater collection system, their wastewater treatment plant, and in the plant's treated effluent. In addition, APAI has assisted the City with management of a mercury database for continued monitoring. By using clean sampling techniques and a mercury test method that is appropriate for the actual low level of mercury in the plant effluent, it has been demonstrated that mercury is not a water quality concern for this plant. The project is ongoing and has required negotiations with TCEQ permitting and water quality standards staff.

PRIVATE POWER PLANT, SOUTHEAST TEXAS

Rex served as Project Manager for a fast-track project that required the evaluation of a discharge permit that had recently been granted for the power plant, but with conditions and limitations that would have prevented the plant from operating as designed. It required the field assessment of various alternatives for new discharge locations, assessment of the capacity of the various potential receiving waters to accept the plant's effluent, and recommendations for a new discharge location. In addition, APAI prepared the permit application to amend the discharge permit and worked closely with the TNRCC (now TCEQ) to obtain the amended permit in record time. APAI also prepared the preliminary engineering plans for the discharge pipeline and outfall structure and performed the necessary field assessments for wetland jurisdictional determination obtained the 404 permit required for the project.

CITY OF PFLUGERVILLE MUNICIPAL SEPARATE STORM SEWER SYSTEM

Rex managed a project to prepare a Phase II municipal separate storm sewer system permit for the City of Pflugerville. The project included development of a stormwater management program and best management practices. An implementation schedule was also required. Rex is currently

assisting the City with implementation of the program, including development of a storm sewer map.

POWER PLANT DISCHARGE ALUMINUM STUDY

Rex managed a project to demonstrate that a proposed water quality limitation for aluminum is not necessary to be protective of water quality in the receiving stream. The project first involved assisting the client to obtain a temporary variance in the TPDES permit from the limit. APAI undertook water quality studies to demonstrate that dissolved aluminum concentrations in the discharge are not toxic to aquatic life.

MANAGEMENT OF WATER TREATMENT PLANT SLUDGE

Rex conducted a study of alternatives for management of water treatment plant sludge for a major water provider in north Texas. The project required an evaluation and projection of solids generation, analysis of numerous potential management alternatives, development of life-cycle cost projections and development of recommendations.

REGISTRATION FOR LAND APPLICATION

Rex served as Engineer-of-Record for the preparation of a registration for a water treatment plant sludge land application site for a major municipality in west Texas. This project also includes a study of long-range alternatives for the management of water treatment sludge.

BIOSOLIDS COMPOSTING DESIGN

Rex served as Project Manager for a biosolids composting design project in east Texas. The project included an inventory of available feedstock sources for biosolids and bulking materials; the conceptual design of the composting facility; projections of cost for development and operation of the facility; and regulatory issues.