

### **Written Testimony and Expert Report of Martha McDonnell (Exhibit Allegra-3)**

As noted above, in the Spring of 2003, Wood and Allegra retained Martha McDonnell of Youngdahl Consulting Group, Inc. ("McDonnell"), a geotechnical engineer to investigate the cause of the water saturation. Her qualifications are stated in her report. McDonnell concluded water was continuously seeping from the Lake over, through, and under Wood's property and exiting on the street side of the property. Allegra also had McDonnell review his property, and she came to the same conclusion that the Lake was leaking water into/onto his property. According to McDonnell's report, the "primary source of water observed [on the Wood/Allegra property] is seepage from the adjacent lake [the Lake]."

We offer Ms. McDonnell's declaration dated April 14, 2004 and her expert report attached thereto. Ms. McDonnell's qualifications are stated therein.

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Pld

FILED  
APR 24 2004

1 TRAINOR ROBERTSON  
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5 Attorneys for Plaintiffs  
TONY and DONNA WOOD and TED and CHERI  
6 ALLEGRA

8 SUPERIOR COURT OF THE STATE OF CALIFORNIA

9 COUNTY OF PLACER

11 TONY and DONNA WOOD and TED and  
CHERI ALLEGRA,

12 Plaintiffs,

13 v.

14 HIDDEN LAKES ESTATES  
15 HOMEOWNERS ASSOCIATION,  
BRUCE YEOMAN, MICHAEL  
16 BONNIE, DAVE STINSON, KAREN  
SUTHERLAND, SUZIE MASON,  
17 KELLY PETERSON, CATHI  
BARRETT, RIVERSIDE  
18 MANAGEMENT & FINANCIAL  
SERVICES, INC. and DOES 1 through  
19 20, inclusive,

20 Defendants.

Case No. SCV 16896

**DECLARATION OF MARTHA  
MCDONNELL IN SUPPORT OF  
PLAINTIFFS' MOTION FOR  
PRELIMINARY INJUNCTION**

**Date: June 15, 2004**

**Time: 8:30 a.m.**

**Dept: 2**

Complaint Filed: April 1, 2004

22 I, MARTHA MCDONNELL, declare:

23 1. I am an associate engineer with the firm of Youngdahl Consulting Group, Inc. and  
24 have twenty-five years experience as a civil/geotechnical engineer and am licensed as such by the  
25 State of California. I have personal knowledge of the matters stated herein and am competent to  
26 testify to the same if called upon to do so.

27 2. In mid 2003, I conducted numerous site inspections of property located at 7884 Jon  
28 Way, Granite Bay, California for the purpose of determining the source and cause of continuous

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1 muddy, mushy and moisture saturated conditions in the rear yard of that property. As part of my  
 2 study, three potholes were augured into rear yard area to access subsurface rock and water  
 3 conditions. The shallow exploration was backfilled with crushed rock and a standpipe to serve as  
 4 a monitoring well to gauge subsurface water elevations and conditions.

5 3. As a result of our review relevant documentation and our several site inspections to  
 6 observe activity within the monitoring wells, I reached the conclusion that the primary source of  
 7 water observed seeping onto, under and across the property was the adjacent lake. Further, we  
 8 concluded that the existing drainage system installed by the owner in an effort to reduce water  
 9 intrusion was only partially effective and could not keep up with the volume of water being  
 10 discharged from the lake.

11 4. I was subsequently asked to conduct a site inspection of the adjacent property at 8316  
 12 East Hidden Lakes Drive. My conclusions with respect to the mushy, muddy and moisture  
 13 saturated conditions on that property were similar.

14 5. A true and correct of my curriculum vitae is attached hereto as **Exhibit "A"** and  
 15 made a part hereof.

16 6. A true and correct copy of my report concerning the source of water intrusion onto  
 17 the properties at issue is attached hereto as **Exhibit "B"** and made a part hereof.

18 7. It is my conclusion, as set forth in more detail in Exhibit "B," that the water intrusion  
 19 on both properties cannot be sufficiently ameliorated unless the adjacent lake is drained and  
 20 properly lined as called for in the original plans of the project.

21 I declare under penalty of perjury under the laws of the State of California that the foregoing  
 22 is true and correct.

23 Executed on April 14, 2004, at Sacramento, California.

24   
 25 \_\_\_\_\_  
 26 MARTHA MCDONNELL

TRAINOR ROBERTSON  
 Attorney At Law  
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EXHIBIT A

# Martha A. McDonnell, P.E.

## Education

B.S., Geology, California State University, Chico 1976  
(Graduate course work completed toward M.S., Geological Engineering, University of Nevada, Reno)

## Registrations

Professional Engineer - California No. 42,560  
*Also registered: Oregon, Washington*  
Geological Engineer, Nevada No. 7172

## Certifications

OSHA - 40 Hour Hazardous Waste Training  
OSHA - 8 Hour Supervisory Training

## Experience

### Transportation

**Bike Trail Overcrossing, El Dorado County.** Project manager for quality control materials testing for the El Dorado Bike Trail Overcrossing.

**Sacramento Airport Terminal A Apron, Sacramento.** Provided consultation, observation, and materials testing services during preparation of subgrade and aggregate base of the Terminal A Apron.

**Cameron Park Airport, North Taxiway.** Provided consultation, observation, and testing services during preparation of subgrade and aggregate base of the north taxiway.

**Arcade Creek Bridge, Sacramento County.** Performed a geotechnical engineering study using Caltrans standards for a new bridge on Winding Way over Arcade Creek.

**Peoria Road Extension, Yuba County.** Prepared geotechnical recommendations for proposed cut and fill slope configurations, and progress report of consultation, observation, and testing for roadway fill and embankments.

**Broadway Reconstruction Between 10th & 14th Streets, Sacramento.** Provided intermittent monitoring of the earthwork grading operations, on an as needed basis, including consultation, observation, and testing services with a final summary report.

**Stockton Boulevard Beautification, Sacramento.** Oversaw earthwork consultation, observation, and testing.

**Elevating Northgate Boulevard, City of Sacramento.** Prepared a Preliminary Reconnaissance and Review of Existing Geotechnical Information.

## Expertise

- \* Foundation and Pavement Design
- \* Slope Stability Analysis
- \* Geologic Hazard Assessments
- \* Seismic Design Criteria
- \* Construction QA
- \* Environmental Site Assessment
- \* Hydrologic Characterization Studies
- \* Soils and Ground Water Remediation
- \* Solid Waste Disposal Facilities and Mining Sites Permitting
- \* Regulatory Negotiations for Site Investigation and Closure
- \* Coordination for Hazardous Materials Removal/Disposal

## Career Background

Youngdahl Consulting Group, Inc.,  
Associate Engineer, 1997 – Present

Vector Engineering, Inc., V. P. and  
Senior Geotechnical Engineer,  
1990-1997

AGE, Senior Project Manager,  
1989-1990

Kleinfelder, Inc., Project Engineer,  
1985-1989

Pezonella Associates, Inc.,  
Geological Engineer, 1977-1984

Harding-Lawson Associates,  
Drafter/Laboratory Technician,  
1976-1977

U.S.F.S. Six Rivers/Mendocino  
National Forest, Geologist, 1974-  
1976

## Organizations

CGEA

- \* Past President

APWA

# Martha A. McDonnell, P.E.

## Water/Wastewater

**Substation 2E/2F; Sacramento Regional Wastewater Treatment Plant, Sacramento County.** Performed a geotechnical engineering study for construction of a cast-in-place concrete substation building to house switchgear and miscellaneous equipment. The study, to explore surface and subsurface soil conditions and develop design criteria, had to take into consideration the fact that the proposed building will be adjacent to an existing tunnel (manway).

**Water Treatment Plant, Folsom.** Geotechnical engineering studies for a proposed 7 to 10 MG, 30-foot-tall clearwell.

**Deer Creek Wastewater Treatment Plant, El Dorado Irrigation District.** As part of the 3.6 expansion of the plant, conducted geotechnical engineering investigation and oversaw materials testing during construction.

**Sly Park Reservoir Pipe Improvements, El Dorado Irrigation District.** Project Engineer for materials testing and observation.

**Reservoir A, El Dorado Irrigation District.** Performed a foundation engineering study for the project site located on the west side of Sly Park Road in Pollock Pines. The purpose of this study was to explore and evaluate the surface and subsurface conditions at the site and to develop geotechnical information and design criteria for the proposed project.

**Reservoirs 2 and 2A, El Dorado Irrigation District.** Performed a foundation engineering study for the project site located on the west side of Snows Road in Camino. The study was to explore and evaluate the surface and subsurface conditions at the site and to develop geotechnical information and design criteria for the proposed project.

**Madrone Water Storage Tank Replacement, Amador County.** Developed geotechnical alternatives based on site and subsurface conditions. The project involved a 50,000-gallon, bolted steel water tank supported by a concrete slab-on-grade with a concrete reinforced ringwall.

**Wastewater Disposal Feasibility Study, Shingle Springs Rancheria.** Conducted a geological assessment to evaluate the maximum amount of wastewater that could be disposed of onsite into the soils and underlying bedrock for a proposed hotel/casino complex.

## Levees

**Levee Strengthening Program, U.S. Army Corps of Engineers, Sacramento District.** Contract manager for Quality Assurance for American River Levee Strengthening program. Overseeing laboratory testing quality control program during testing

# Martha A. McDonnell, P.E.

## Schools

**Rescue School Maintenance Facility, Rescue Union School District.** Oversaw reinforced concrete materials testing for new maintenance facility.

**Lake Forest Elementary School New Restroom Facilities, Rescue Union School District.** Oversaw materials testing.

**Activity Building, El Dorado County Office of Education.** Oversaw materials testing for construction of the new activity building.

**Rolling Hills Middle School, Buckeye Union School District.** Provided consultation, observation, and testing services during mass grading for new middle school campus.

**Rio Calaveras Elementary School, Stockton Unified School District.** Conducted geotechnical engineering investigation and construction quality assurance of soils and materials during new elementary school construction.

**Camino School Portable Classrooms, Camino Union School District.** Managed field observation and laboratory services during earthwork operations and classroom installation.

**Camino School No. 2, Camino Union School District.** Oversaw field observation and laboratory services during earthwork construction for new building pad, and hard court and parking areas.

**New Wrestling Room, El Dorado Union High School District.** Oversaw special inspection activities of masonry block construction.

**Silva Valley Elementary School, Buckeye Union School District.** Oversaw materials testing for installation of new portable classroom buildings.

**Cedar Springs Waldorf School, Placerville.** Performed a geotechnical engineering study to explore and evaluate surface/subsurface soil and rock conditions at the site of two proposed new classroom buildings.

**Amador County Unified School District.** Oversaw soils consultation, observation, and testing services for improvement projects at various district schools, including Jackson Junior High School, Plymouth School, Ione Elementary, Argonaut High School, Sutter Creek Elementary, and Amador High School.

## Justice Facilities

**Amador County Sheriff's Detention Facility, Jackson.** Overseeing materials testing and special inspection for construction of improvements that include the laundry/kitchen, sobering cell/utility, and booking/entry/locker room areas.

# Martha A. McDonnell, P.E.

**Various Facilities.** Participated in geotechnical engineering studies and construction quality control for various facilities including:

- Wayne Brown Correctional Facility, Nevada County
- Placer County Jail, Auburn
- Placer County Juvenile Hall, Auburn
- Yolo County Juvenile Hall
- Mulecreek Prison, Ione
- Pelican Bay Prison, Del Norte County

## Healthcare Facilities

**Surgery Center, Marshall Hospital, Placerville.** Geotechnical engineering study for construction of a 2-story, 25,000 square foot, outpatient surgery center.

**Mercy Hospital Folsom Employee Parking, Catholic Health Care West.** Oversaw subsurface exploration on the proposed parking lot expansion.

## Miscellaneous Buildings

**New Customer Service Building, El Dorado Irrigation District, Placerville.** Geotechnical engineering study for a 2-story, wood frame office building, including a 6-foot-tall reinforced concrete masonry block retaining wall.

**Amador County Animal Control Facility, Martell.** Geotechnical engineering study for a project involving demolition of several existing buildings, and construction of a new 1-story wood frame structure. The project included construction of retaining walls up to 6 feet in height along the south and north edges of the site.

**Maintenance Buildings, Amador County.** Geotechnical engineering study for three proposed maintenance buildings to be constructed at the County Airport in Martell.

**AmeriSuites Hotel, Rancho Cordova.** Conducted a geotechnical investigation for a 6-story hotel in a dredge tailings area, and monitored earthwork operations.

**USCS Expansion, Corporate Campus, Building 2, El Dorado Hills.** Geotechnical engineering study for USCS expansion-corporate campus, and provided consultation, observation, and testing services during construction.

**Hyatt Hotel, 12<sup>th</sup> and L Streets, Sacramento.** Geotechnical engineering study and deep foundation design for a high-rise hotel downtown.

**OTS Corporate Campus, El Dorado Hills.** Geotechnical engineering study and materials testing for six 3- and 4-story reinforced concrete buildings.

**Shadow Hills Church, Roseville.** Geotechnical engineering study for a masonry block building.



# Martha A. McDonnell, P.E.

**Kirkwood Real Estate Development.** Is providing consultation, observation and testing at Kirkwood Lodge, a \$7.8 million ski resort, and three other condominium complexes in Alpine County.

## Landfills

**McCourtney Landfill, Nevada County.** Performed characterization of existing landfill materials, including obtaining representative soil samples for analytical purposes. Evaluated thickness of clay cover and vegetative layer for characterization and provided recommendations for liner material selection and evaluation.

**Russell Pass Landfill, Churchill County, Nevada.** Prepared a request for suspension of groundwater monitoring and composite liner requirements for the 123-acre site. The project involved the evaluation of the potential for the vertical migration of leachate from the bottom of the waste unit using the HELP modeling program.

**Landfill Closure/Post-Closure Plan, Elko, Nevada.** Assisted in preparation of closure and post-closure plans for an existing facility. Provided site selection assessment for the new facility including assisting in environmental documentation for permit applications. Assisted in the design of the vertical expansion at the existing site. Prepared closure and post closure monitoring requirements.

**Landfill Characterization, Las Vegas, Nevada.** Characterization of landfill for closure purposes. Included recommendations for final cover materials and requirements for construction quality control for closure.

## IDIQ Contracts

**City of Sacramento.** Contract manager to provide testing services for various projects under an on-going contract. Projects have included: Broadway Reconstruction Between 10th & 14th Streets; 13<sup>th</sup> Street Sidewalks Rehabilitation; and, Sump 101 Generator and Transfer Switch Installation.

**Levee Strengthening Program, U.S. Army Corps of Engineers, Sacramento District.** Contract manager for Quality Assurance for American River Levee Strengthening program. Overseeing laboratory testing quality control program during testing of slurry wall materials.

**Alpine County Building Department.** Contract manager for a variety of task orders for geotechnical engineering and materials testing.

## Parks and Recreation

**Handy Family Park, Folsom.** Project manager for a study to explore and evaluate the surface/subsurface conditions and develop geotechnical design criteria for a park to include a soccer field, basket ball court, play area, picnic structure, restroom structure, asphalt concrete access drives and parking areas, and underground utilities.

# Martha A. McDonnell, P.E.

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**Orangevale Community Pool, Orangevale.** Geotechnical engineering for a swimming pool and associated decking, as well as an adjacent building of anticipated wood/metal frame construction with a concrete slab-on-grade floor.

**Lembi Park Aquatic Center, Folsom.** Oversaw testing and inspection services for a new community pool and associated buildings.

**El Dorado County Fairgrounds, Placerville.** Consultation, observation and testing for new restroom buildings.

**EXHIBIT B**

# YOUNGDAHL CONSULTING GROUP, INC.

Geotechnical • Geoscience • Materials Testing • Storm Water Compliance

1234 Glenhaven Court, El Dorado Hills, CA 95762  
Ph 916.933.0633 Fx 916.933.6482

502 Giuseppe Court, Suite 2, Roseville, CA 95678  
Ph 916.773.7633 Fx 916.773.7833

E-mail@youngdahl.net

Mr. Michael Thomas  
Trainer Robertson  
701 University Avenue, Suite 200  
Sacramento, CA 9582

18 August, 2003  
Project No. 03286

Subject: **7884 JON WAY**  
Granite Bay, California  
*GEOTECHNICAL RECONNAISSANCE RELATED TO SUBSURFACE WATER  
CONDITIONS*

- References:
- 1) Site Plan, 7884 Jon Way; Prepared By J Rider + design; Dated 6/3/02
  - 2) Preliminary Geotechnical Reconnaissance, 7884 Jon Way, Granite Bay, Ca; Prepared By Engeo Incorporated; Dated 5/28/03
  - 3) Improvement Plans for Hidden Lake Subdivision; Sheets 5 and 7 of 12; Prepared By GW Consulting, Dated As Built 6/28/78
  - 4) Miscellaneous notes from Hidden Lakes Subdivision Home Owners Association Meeting Minutes 1982 to 2003
  - 5) Aerial Photos

Dear Mr. Thomas,

This letter presents the results of Youngdahl Consulting Group, Inc. site reconnaissance, limited subsurface exploration, research findings and recommendations regarding subsurface drainage on the property located on 7884 Jon Drive in Granite Bay, California. The purpose of our study was to evaluate probable causes of seepage observed on the property, the extent and scope of the seepage and to provide recommendation for remediation.

## Background

The property consists of a triangular shaped lot located on the southwest corner of Jon Way and Hidden Lakes Drive in Granite Bay. The lot was originally designated as Lot 25 and is now referred in drawings as Lot 71. The lot is bounded by Jon Way to the north, Lot 26 (now lot 72) to the southeast, Lot 55 (now Lot 70) to the west and the lake of Hidden Lake Unit No 2 to the south. The toe of the northern lake embankment forms the southerly lot property boundary. The property contains a two story, single family residence of wood frame construction. The home has a raised wood supported floor with an attached garage with a concrete slab-on-grade. We understand that the home was initially constructed in the late 1970's or early 1980's and that you purchased the home in May 2002. The home was remodeled during summer of 2002 and you moved into the home in November 2002.

During the remodeling activities we understand that the landscaping around the home was not watered due to the lack of electrical power and open water pipes. Despite the lack of irrigation and watering the rear of the property, landscaping and grass reportedly remained green throughout the summer. In the spring, due to the noted wet and swampy conditions you observed, you initiated the installation of additional drainage, landscaping and hardscape however, continued saturated surface conditions were noted in the rear of the backyard and easterly side yard. These wet conditions included the presence of standing water and swampy conditions in the south and east portions rear of the yard, limiting use of the backyard and precluding the installation of improvements in the backyard area. Areas where landscaping improvements were installed required the installation of numerous surface drains to divert areas of standing water.

In an attempt to dry the near surface soil, we understand that the landscaping contractor installed a shallow subsurface "french" drain along the Southerly property boundary. Based on conversations with you and a review of photos taken during the subdrain installation (May/June 2003), standing water was encountered at a depth of less than 1 foot below grade in the southern portion of the yard. The drain consisted of a PVC pipe enveloped in filter fabric installed to a depth of approximately 2 ½ feet, paralleling the south property line with a below grade sump installed in the southeast corner of the lot. A solid "tight" discharge pipe was installed along the east property line which daylights near the intersection of Jon Way and Hidden Lakes Drive. During drain installation, a previously installed buried 55 gallon drum was encountered in the southeast corner of the lot. The installation of this drain and outlet reportedly impacted the existing planted areas.

Youngdahl Consulting Group, Inc. initially visited the property on 1 July 2003. At the time of our initial site visit, the near surface soils in the south portion of the yard were still very wet and the sump was operating with a near continual discharge of water at the outlet. The drain appeared only partially successful in intercepting subsurface water flow onto the property.

The landscaping contractor began installation of additional drainage, irrigation and replacement of the landscaping damaged by the previous work in the backyard area in early August 2003. During these activities we conducted several site visits to observe subsurface conditions. We requested that the contractor auger three potholes in the backyard area to access subsurface rock and water conditions. These shallow exploration points were backfilled with crushed rock and a standpipe to serve as a crude monitoring well to gauge subsurface water elevations and conditions.

### Findings

To evaluate probable sources of water intrusion we conducted a review of available County of Placer records and aerial photos on the lot and surrounding properties. The improvement plans (reference 3) show that the lot was initially designated as Lot 25 (aka Lot 71) within Hidden Lakes Subdivision. Topography of the lot is shown to slope to the east towards an unnamed drainage swale located between Lots 25 (71) and 26 (70). Lot 25 (71) has elevation high of 468 feet sloping to the southeast and northeast to an elevation of 460 feet. We understand from conversations with the civil engineer that the lots were "no grade" lots and original grading activities during subdivision development were confined to installation of the lake, streets and underground improvements.

The adjacent Lake 2 shows a water surface elevation of 469 feet (approximately 5 feet above the toe of the slope) with the bottom of the lake shown at elevation 455 feet. The top of the embankment is set at bank elevation 472 feet with a downslope gradient of 3 horizontal to 1 vertical. An emergency overflow outlet pipe consisting of a 15-inch CMP is shown through the embankment from the lake. This pipe outlets at the joint property line of Lots 25/26. The flow line of the outlet is designated at elevation 462.54 feet.

We could not find records of a geotechnical study of the subdivision or records of grading activities during the Lake and subdivision construction. The improvement plans reference that the dam embankment should be constructed of on-site soils compacted to 95% of the ASTM D 1557-70. Minimal (6-inch) scarification of the original ground surface is noted; no keyway or core within the embankment is specified. The plans call for "the upstream slope of the dam and with "no less than one pound per square foot" bentonite. There is some question as to whether bentonite was installed following lake construction. A "10 foot apron along the bottom of the reservoir (at the toe of the upstream slope" was specified to be treated be during construction.

A cursory review of minutes from the Hidden Lakes homeowners association (HOA) revealed that seepage from the Lake has been an on-going issue in the subdivision. Minutes from 10/10/1989 note an "unexplained continual drop in lake levels" and in 12/11/90 that the "lake continues to lose water due to unknown seepage areas". In 4/90 an estimate by the HOA landscaping and lakes committee was performed and total losses (seepage and evapotranspiration) of "51,750 cubic feet of water per month" were estimated. Discussion is also noted in the minutes that the presence of bentonite was uncertain. The minutes from 8/11/92 have a report attached which Item # 10 refers to "The lakes have been leaking for many years" and "this may be the source of water infiltration in some properties adjoining the lakes". In 7/11/01 an estimate was obtained for lining of the lake with a geosynthetic liner to reduce seepage.

### Conclusion

Based on the results of our research and observations, it is our professional opinion that the primary source of the water observed is seepage from the adjacent lake. Our rough measurements of groundwater levels within the exploration points show a hydraulic gradient to the north indicating that the lake is the source of the subsurface water. We suspect that seepage is occurring both through the bottom of the lake and through the toe of the embankment; an additional source of seepage appears to be the former drainage swale present between Lots 25 and 26 (aka Lots 71 & 72). The CMP outlet daylights on the adjacent property Lot 26 (aka Lot 72) near the toe of the embankment; the pipe does not include seepage cutoff collars (typically used to reduce seepage flow) and does not outlet into closed storm drain system. The former drainage swale intended to convey water toward the front of the lots appears to have been partially backfilled. Given the absence of a cutoff trench at the toe, water from the lake is likely continuing to flow through trench backfill and into the former drainage swale.

As stated in the findings section of this report, GW Consulting does not believe that bentonite was used to "seal" the lake. Even if the bentonite seal is present, the plans do not call for a continuous liner to be installed. Treatment of only a portion of the base of the lake would likely be ineffective in eliminating all seepage. Several methods exist to reduce seepage through embankments and pond areas. These methods sometimes include a minimum thickness of 2 feet of low permeability soil is used for an earthen liner which is installed continuously along the bottom of the pond as well as the embankment sidewalls. Alternative methods include the use of geosynthetic liners, bentonite seals, cutoff walls or a zoned core (consisting of low permeability soils) within the earthen dam.

The near surface soils consist of weathered decomposed granite which generally can be classified as silty sand soils; typically, these soils have relatively high permeability. Re-compaction of these soils, while reducing permeability, is unlikely to create an impermeable embankment for water migration. Generally, lined impoundments require liners to have permeabilities on the order of  $10^{-6}$  cm/sec. Silty sand soils in a compacted state typically have permeabilities on the order of  $10^{-4}$  cm/sec, several orders of magnitude less than what is required for a low permeability condition.

With the absence of a functioning liner within the lake, or cutoff trench within/or at the toe of the embankment, seepage will most likely continue to be a recurring problem (as already documented in the past by the HOA). The installation of an intercept drain at the toe of the embankment will aid to divert seepage as an immediate relief of the wet conditions, but installation of a liner within the lake should be considered as a permanent solution. General practice dictates that seepage sources be addressed when possible, and as a less preferred option, install drainage (surface and subsurface) to deal with the effects of the emanating seepage. The general reasons for this are that once seepage has been allowed to occur, intercepting and collecting all sources becomes an almost impossible task.

Continued seepage onto the property can adversely effect future use of the backyard, pool repairs, landscaping and possibly could effect the home should subsurface water be present or daylight beneath the residence. If present, free water in contact with framing can compromise wood members which can wick into sheetrock and roofing materials. Additionally, stagnant water or saturation could cause mold growth. We understand that testing for mold has been performed prior to the sale of the residence and none was detected.

We understand that improvements to the existing pool are proposed. Hydrostatic pressure can cause an emptied pool to "float". The seepage quantities occurring on-site is likely to cause sufficient hydrostatic pressure to cause this buoyant "floating" condition. The installation of a pressure relief system at the base of the pool is recommended prior to pool repair. This is an expensive and complex option that may not be effective.

### Recommendations

For immediate relief purposes, we recommend that a new subdrain be installed along the south and east property line to intercept subsurface water flow as shown on Figure 1. The drain should be deepened into bedrock materials a minimum depth of 1 foot to intercept water which may be perched along the soil/bedrock contact. We recommend that the drain be designed as a gravity flow system which discharges into the drain inlet located at the Jon Drive/ Hidden Lakes Drive intersection. Given the elevation of the property and depth to water, a minimum pipe gradient of 0.5 percent should be maintained. A sump should be positioned near the outlet as a precaution should additional dewatering be required due to excess lake seepage, outflow and rainfall. The last 20 foot of the drain line should be a solid "tight" pipe with a grout collar positioned at the junction of the perforated and tight pipe to reduce the potential for water migrating from the line back to the home.

The drain should consist of a 4-inch rigid wall perforated pipe surrounded by permeable material which is covered with filter fabric. The down-gradient side of the trench should include the installation of a waterproofing membrane to limit water infiltration into the surrounding sandy soils. A typical subdrain detail is shown on Figure 2. These measures are temporary only and are unlikely to completely alleviate damaging effects of seepage.

For permanent relief of the seepage conditions, a liner should be installed in the lake to prevent excessive seepage from impacting these low lying lots. When this repair occurs, the installed drainage systems as detailed above will become a secondary line of defense against adverse impacts related seepage migration onto the property.

### Limitations

It should be noted that our comments, conclusions and recommendations are based on visual observations and limited exploration of subsurface conditions. We were not present during grading of the lake or subdivision or installation of the existing subdrain system on the property. Our scope of work has not, to date, included any detailed hydrologic characterization or environmental assessment of the residential structure.

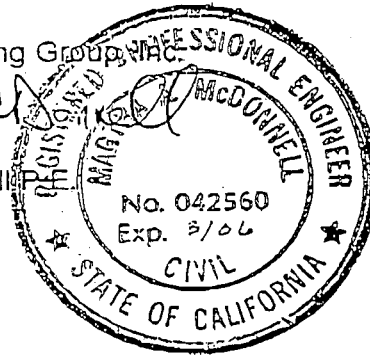
**Y** 7884 Jon Way, Granite Bay  
Page 5

**Project No. 03286**  
**18 August, 2003**

We appreciate the opportunity to be of service on this project. If you have any questions regarding this report or any aspects of the project, please feel free to contact our office.

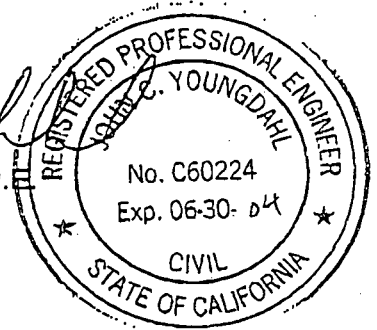
Very truly yours,  
Youngdahl Consulting Group, Inc.

*Martha A. McDonnell*  
Martha A. McDonnell  
Associate Engineer

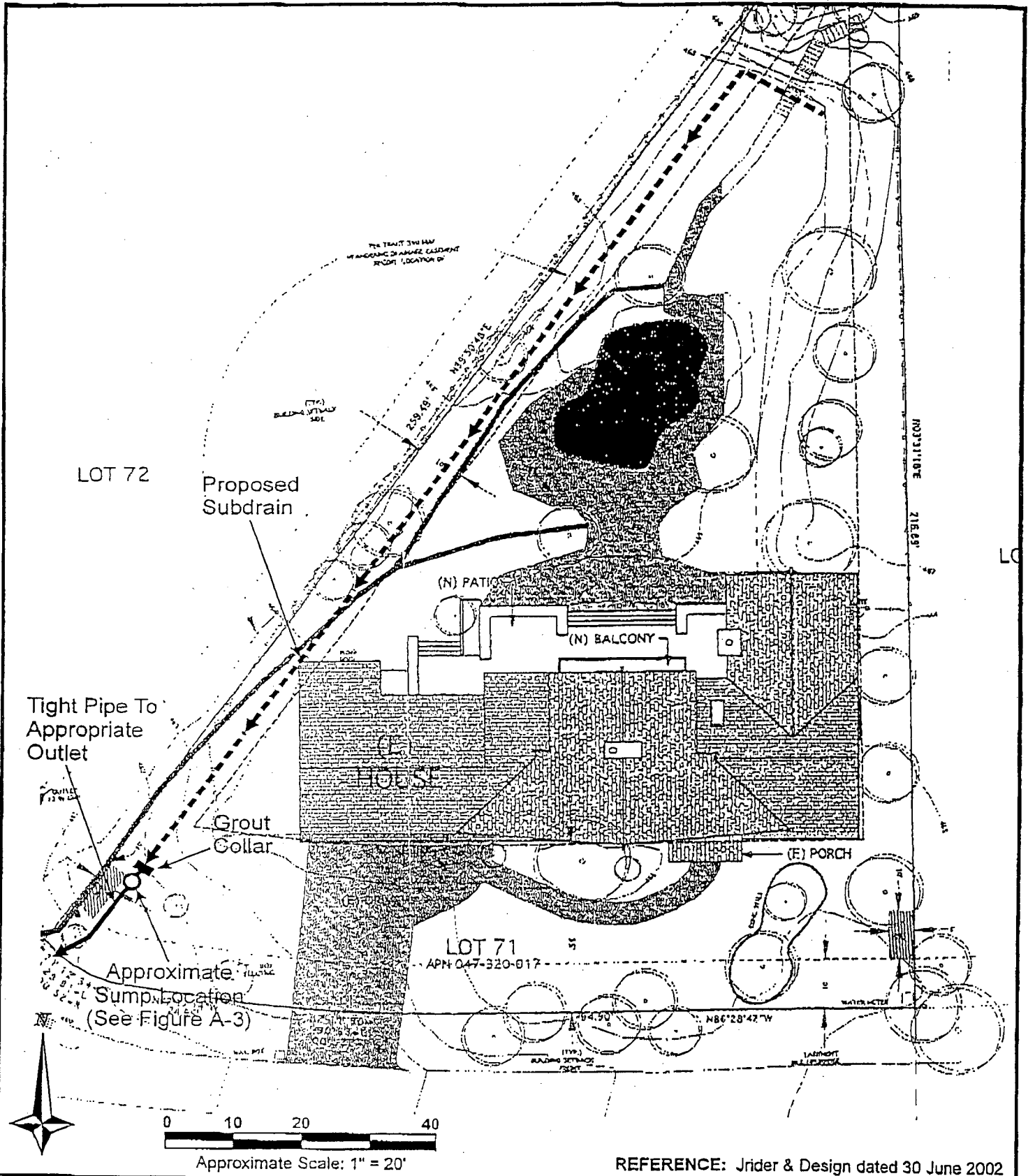


Reviewed By:

*John C. Youngdahl*  
John C. Youngdahl, P.  
Principal Engineer







REFERENCE: Jrider & Design dated 30 June 2002

**YOUNGDAHL**  
 CONSULTING GROUP, INC.  
 GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Project No.: 03286  
 August 2003

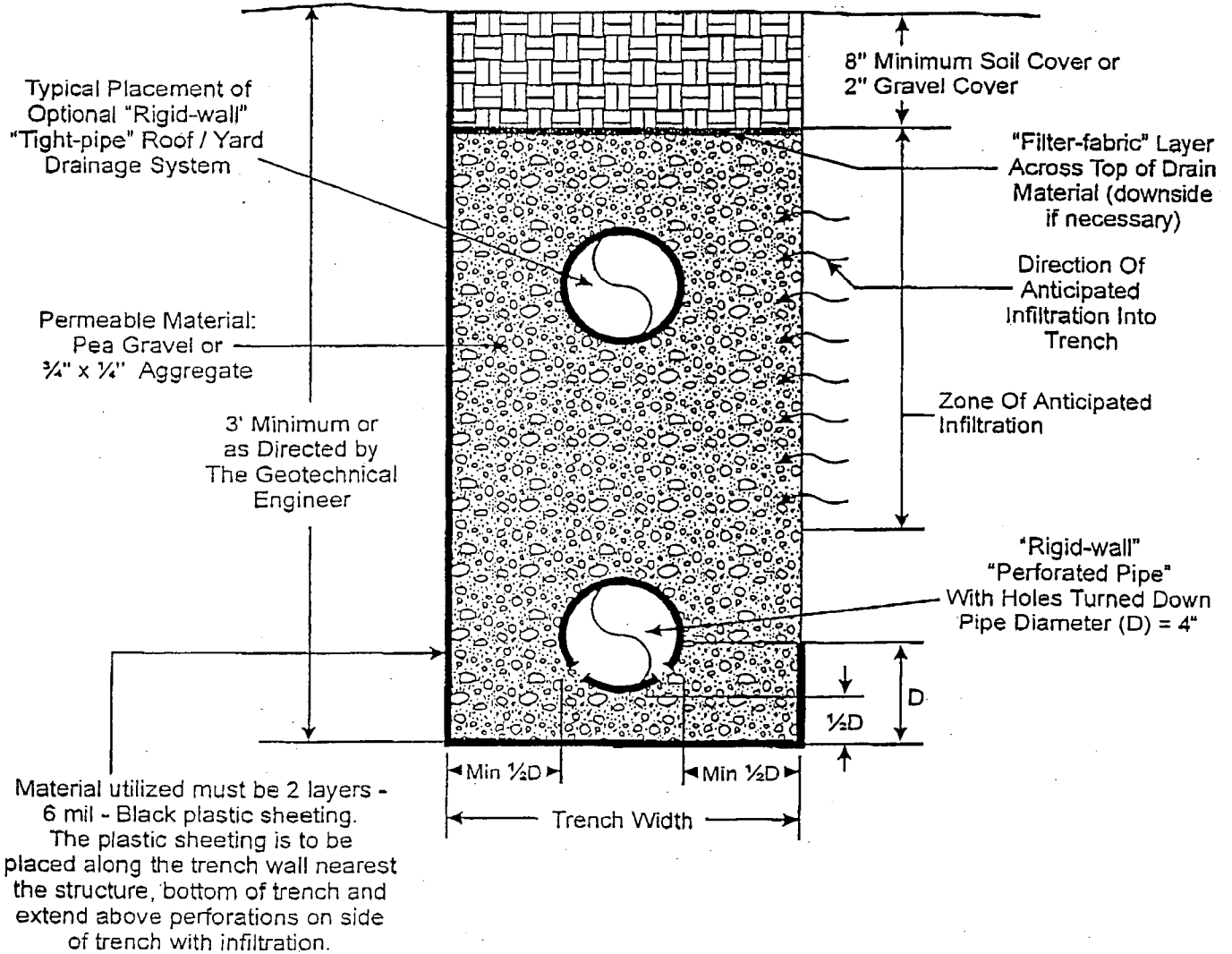
**SITE PLAN**  
 Jon Way (7884)  
 Granite Bay, California

FIGURE  
 A-1

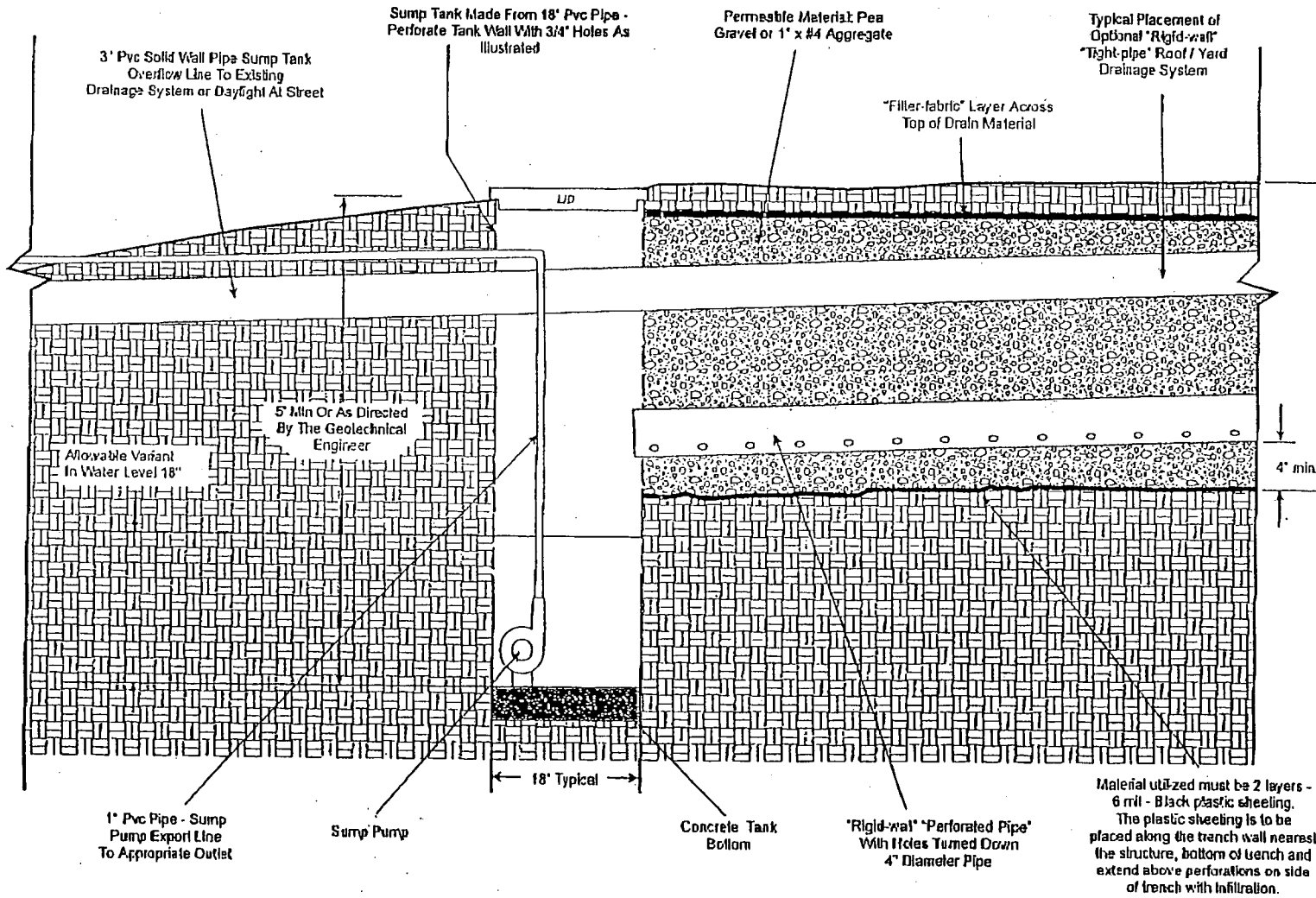
# "Perforated Pipe Sub-Drain" Installation

## Typical Cross Section

(With "Tight-pipe" Roof / Yard Drain Installation)



- NOTES:
1. Slope trench and "rigid-wall" pipes at least 1% gradient to drain.
  2. Use "sweeps" for directional changes in pipe flow (do not use elbows).
  3. Provide periodic "clean-outs".
  4. Washed clean permeable material.
  5. Trench to be excavated a minimum of 12" below zone of infiltration



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Material utilized must be 2 layers - 6 mil - Black plastic sheeling. The plastic sheeling is to be placed along the trench wall nearest the structure, bottom of trench and extend above perforations on side of trench with infiltration.

**YOUNGDAHL**  
CONSULTING GROUP, INC.  
GEO-TECHNICAL - ENVIRONMENTAL - MATERIALS TESTING

Project No.: 03266

**SUB-DRAIN & SUMP SYSTEM DETAIL**

Jon Way (7884)  
Granite Bay, California

**PROOF OF SERVICE**

I, Nicole A. Dalton, declare:

I am a resident of the State of California and over the age of eighteen years, and not a party to the within action; my business address is 701 University Avenue, Suite 200, Sacramento, California 95825-6700. On April 23, 2004, I served the within documents:

**DECLARATION OF MARTHA MCDONNELL IN SUPPORT OF PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION**

- by transmitting via facsimile the document(s) listed above to the fax number(s) set forth below on this date before 5:00 p.m.
- by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Sacramento, California addressed as set forth below.
- by causing personal delivery by \_\_\_\_\_ of the document(s) listed above to the person(s) at the address(es) set forth below.
- by placing the document(s) listed above in a sealed \_\_\_\_\_ envelope and affixing a pre-paid air bill, and causing the envelope to be delivered to a \_\_\_\_\_ agent for delivery.
- by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

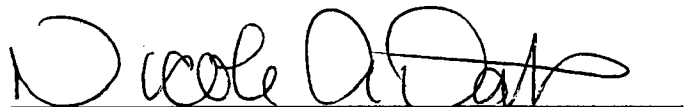
John J. Fritsch, Esquire  
Law Offices of David E. Beach  
100 Stony Point Road, Suite 185  
Santa Rosa, California 95401  
Telephone: 707-547-1690  
Facsimile: 707-547-1694

Attorney for Defendants

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on April 23, 2004, at Sacramento, California.



Nicole A. Dalton

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