



# Supplement to 10/20/2014 MPWMD Board Packet

Attached are copies of letters received between September 2 and October 10, 2014. These letters are also listed in the October 20, 2014 Board packet under Letters Received.

<b>Author</b>	<b>Addressee</b>	<b>Date</b>	<b>Topic</b>
Jay Bartow	MPWMD Board	9/29/14	Appointment to Voter Division 2
Richard Cox	MPWMD Board	9/29/14	Appointment to Voter Division 2
John Turner, Mark Watson, Bonnie Adams	David Stoldt	9/25/14	Appointment to Voter Division 2
Karen Consentino	MPWMD Board	9/12/14	Appointment to Voter Division 2
Danial Pick	David Stoldt	9/12/14	Water Hydrant Meter Permit Renewals
Gary and Ingrid Brant	David Stoldt	9/9/14	Well Use Agreement
Mike Amaya	David Stoldt	9/4/14	Water Use of Self Service Car Washes
Paul Lord	Stephanie Locke	8/28/14	Third Place Award for Water-Wise Landscape Design

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Jay Bartow  
50 Los Encinos Dr.  
Del Rey Oaks, CA 93940  
(831)394-2838  
September 29, 2014

RECEIVED

OCT - 5 2014

MPWMD

Monterey Peninsula Water Management District  
P.O. Box 85  
Monterey, CA 93942  
Attention: Arlene Tavani

Dear Members of the MPWMD:

I am writing to be considered for the open position on the MPWMD for Division 2. I have lived at my current address in Del Rey Oaks since December of 1974, and have followed the long search for a reliable water supply for our Peninsula since that time. I grew up in the San Fernando Valley, attended North Hollywood High School; UCLA, from which I earned a B.A in International Relations in 1966; Fuller Theological Seminary, from which I earned a Master of Divinity in 1970; and I earned a Doctor of Ministry Degree from San Francisco Theological Seminary in 1995.

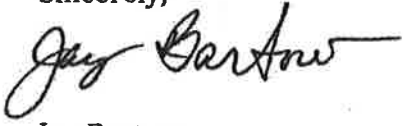
From December 1974 until my retirement in June of 2011 I served as Pastor of First Presbyterian Church of Monterey. I have been active in community service during that time. I was on the founding board of Interim Inc., The Indochinese Refugee Resettlement Program, and helped to launch the Interfaith Homeless Emergency Lodging Program (IHELP). I have been a member of the Rotary Club of Monterey for the last nineteen years.

In my retirement I have taken six trips to Latin America with teams of volunteers to help install water purification systems and do hygiene education in schools and churches there. I have had a lifelong interest in water and making potable water available to communities in need of it.

It seems to me that one of the biggest hurdles in our Peninsula's search for a sustainable water source for our residents while preserving our exceptional environment, which is so important to our economy and quality of life, is our inability to come to a meeting of the minds. Finding a way toward common ground requires not only good science and information, but also developing a climate of respectful dialog and trust. I believe that I was successful at that in my vocation and volunteer work. I would seek to do likewise on the MPWMD if I were appointed to represent Division 2.

I would be happy to provide names of persons who know me and my involvement in our community if you desire them. Thanks for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Jay Bartow". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Jay Bartow

09/29/2014

Monterey Peninsula Water Management District  
5 Harris Court  
Monterey, California 93940

RECEIVED

SEP 29 2014

Ref: Board of Directors Member Division 2

MPWMD

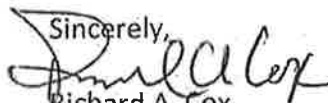
To Whom It May Concern,

The purpose of this letter is to communicate my interest in filling the open Board of Directors position recently vacated by Bill Thayer and to offer an overview of my credentials in hopes of earning consideration. My qualifications reflect the professional skills, knowledge, education and leadership experience of someone who has made decisions based on community needs, facts and available resources. The attached resume chronicles more than thirty-seven years of employment, in both the public and private sector, and will illuminate business proficiencies, organizational achievements, and significant leadership abilities developed through successes.

The last ten years of my professional life has been spent in positions related to providing services and managing complex projects in Monterey County; public safety, public services and education. I take pride in having maintained a consistent professional connection with Monterey County and its leaders, all the while remaining informed on important issues related to local issues such as our local water needs and demands. I have experience overseeing many projects, managing multi-million dollar budgets and meeting deadlines consistently. To that end, I have led teams to organizational goals, objectives and improvements in efficiencies and expenditures. I have provided strong stewardship during periods of difficulty and complexity and have earned the trust of superiors, colleagues, and constituents alike.

Many of my skills sets have been developed as a result of doing. I have maintained a strong history of being involved in local projects, community programs and volunteer efforts. I have been a youth sports coach, church board member, and business mentor. I have also served on important commissions such as the Monterey County 911 User's Board, Salinas Valley and Soledad Prisons Advisory Commission, the Monterey County Anti-Gang Task Force and have contributed to meaningful county-wide problem-solving efforts. I have ensured verifiable state and federal compliance in a variety of industries and have enjoyed improved customer and employee satisfaction according to external surveys, where deficiencies had once existed.

In closing, it is my sincere hope I have provided enough reason to entertain my application for this very important role. Thank you for your time and the opportunity.

Sincerely,  
  
Richard A. Cox

## RICHARD A. COX

1112 Devisadero Street - Pacific Grove, CA 93950  
 Home (831) 649-6508 - Cell: (831) 262-7895 - Email: racox93950@comcast.net

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### EXPERIENCED EXECUTIVE - BUSINESS ADMINISTRATOR - OPERATIONAL LEADER

*Profit and Loss Management - Business Strategy Development - Succession Planning - Budgeting and Forecasting -  
 Emergency Preparedness and Response - Contract Negotiations - Marketing - Community Outreach*

Executive leader with 37 years of private and public sector experience. Success in driving growth and revenue by improving effectiveness and efficiencies in organizational productivity. Professional proficiencies include re-organization ability, resource distribution, leadership development and development of specific strategies yielding improvements in sales, employee retention, and personnel development. Significant experience maintaining meaningful partnerships with state and local entities by participating in outreach programs, both as a leader and volunteer.

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### PROFESSIONAL EXPERIENCE

#### HEALD COLLEGE - Salinas, CA

##### CAMPUS PRESIDENT (2010 - Present)

Selected to operate an organization with a multi-million dollar budget and overseeing a service-based facility of more than 140 employees. Developed and implemented strategic plan to correct performance deficiencies, cut unnecessary spending, and re-align revenue generating efforts to match Profit & Loss goals and objectives. Identified system failures and made appropriate corrections to improve productivity and other revenue generating efforts. Successfully managed Human Resource responsibilities, negotiated vendor contracts, and maintained high level of customer service.

##### Selected Accomplishments:

- Private Administration & Operation - Oversight of day-to-day operations and execution of administrative tasks such as advertisement, social media and community outreach. Developed specific modifications in policies, procedures, and practices to realize short and long term successes related to goals and objectives. Demonstrated consistent capabilities in the area of resource distribution, compliance and increased productivity.
- Profit and Loss Management - Monitored revenue and expenditures utilizing specific schedules to ensure early detection of any changes in profitability followed by routine meetings to discuss internal and/or external influences impacting growth, organizational objectives, and "the bottom line."
- Strategic Plan Development and Implementation - Developed strategies by analyzing accurate data, team feedback and information gathered from all other stakeholders. Forecasted impacts of internal and external influences while aligning strategic initiatives with organizational goals and objectives. Implementation followed frequent monitoring and modification, if necessary and/or practical.

#### CITY OF SOLEDAD - Soledad, CA

##### POLICE CHIEF/ASSISTANT CITY MANAGER (2004 - 2009)

Appointed to the senior executive leadership position of an agency providing law enforcement services to a community with two state prisons within jurisdiction.

Formal appointment to the position of Assistant City Manager occurred after having demonstrated above average executive capabilities. Primary duties focused on quality of life and public health issues. Achievements included implementation and management of organizational restructuring, facility remodeling, and oversight of special projects such as a waste-water retro-fit, downtown revitalization effort, special events, emergency preparedness and emergency operations. Additional proficiencies include representing management in contract negotiations, labor disputes, and civil litigation involving various bargaining units.

Selected Accomplishments:

- Public Administration & Operation - All crimes were significantly reduced according to the Federal Bureau of Investigations annual report as a result of re-distribution and re-assignment of resources and accessing "other" resources after identifying and evaluating deficiencies. Organizational improvements were acknowledged by City Council, District Attorney's Office, Police Officer's Association and California Attorney General's Office.
- Budget Development - Developed numerous multi-million dollar budgets after evaluating the available resources against the organizational goals and objectives. All revenue projections and forecasts were the result of determining the impact federal and state economies would have on local economies year over year. Funding sources routinely included securing grants, loans, and "other" forms of finance.

ORATOR PLUS - Monterey, CA

BOARD of DIRECTORS

Maintained oversight of budgetary, operational, and strategic plans and other administrative functions. The company develops and provides integrated multi-media presentation systems to a variety of organizations across the United States and is focused on growth through increased revenue. Primarily utilized by law enforcement and public safety entities, the software is oftentimes used as an emergency preparedness utility and has quickly become a leader in emergency documentation.

Selected Accomplishments:

- Strategy & Operation - Provided guidance for developing strategies by analyzing accurate data, feedback and information gathered from customers. Forecasted impacts of internal and external influences while aligning strategic initiatives with organizational goals and objectives.
- Administration - Goals and objectives were achieved through regular and meaningful succession planning efforts.

CITY OF PACIFIC GROVE - Pacific Grove, CA

POLICE SERGEANT (1992 - 2009)

Served as police supervisor charged with managing sworn personnel and other resources in such assignments as Patrol, Narcotics, Traffic Enforcement, Internal Affairs, and Community Relations. Provided specialized training, testing, and certification in a multitude of law enforcement disciplines to including but not limited to, weaponless defense, impact weapons, accident re-construction, crime scene preservation, evidence

collection, criminal profiling, and forensic analysis. Also elected to the position of Police Officer's Association President for six years and represented line personnel in labor negotiations, personnel disputes, and civil litigations.

Selected Accomplishments:

- Public Administration & Operation - Various units of operations were managed with outcomes resulting in crime reduction, resource efficiency, and effectiveness. Objectives were readily defineable, measureable and sustainable.
- Strategy Development - Strategies were produced after identifying deficiencies, evaluating available resources, and determining the appropriateness of the plan. Every plan was reviewed, evaluated, and monitored for effectiveness.
- Communication Strategy - Lines of communication were broadened through the introduction of new policies, procedures, and innovative technology. Definitive forms of communication, which included lateral and horizontal lines, were identified and established with substantive expectations.

POLICE OFFICER/CORPORAL (1976 - 1992)

Served as Police Officer holding various assignments to include Patrol, Narcotics, Traffic Enforcement, Field Training and Community Relations.

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EDUCATION & SELECT PROFESSIONAL DEVELOPMENT

- B.A., Saint Mary's College - Moraga, CA
- A.S., Monterey Peninsula College - Monterey, CA
- University of Virginia (FBI National Academy) - Quantico, VA
- Supervisor Leadership Institute - San Diego, CA
- Corinthian College Inc. (Leadership Training) - Concord, CA
- Cal-P.O.S.T. Certificate - Basic - Gavilan College - Gilroy, CA
- Cal-P.O.S.T. Certificate - Intermediate - Gavilan College - Gilroy, CA
- Cal-P.O.S.T. Certificate - Advance - Gavilan College - Gilroy, CA
- Cal-P.O.S.T. Certificate - Supervisory (San Jose State University) - San Jose, CA
- Cal-P.O.S.T. Certificate - Management (San Jose State University) - San Jose, CA
- Cal-P.O.S.T. Certificate - Executive Development - Santa Rosa, CA
- Cal-P.O.S.T. Certificate - *Instructor* General Education (San Jose State University)
- Cal-P.O.S.T. Certificate - *Instructor* Narcotics Enforcement - D.O.J. Sacramento, CA
- Cal-P.O.S.T. Certificate - *Instructor* Patrol Procedures (Monterey Peninsula College)
- Cal-P.O.S.T. Certificate - *Instructor* Weaponless Defense - Santa Rosa, CA
- Cal-P.O.S.T. Certificate - *Instructor* Impact Weapons - Santa Rosa, CA
- Cal-P.O.S.T. Certificate - *Instructor* Ethics and Integrity - Sacramento, CA
- Cal-P.O.S.T. Certificate - Field Training Officer (San Jose State University)



Monterey County Hospitality Association  
"The Voice of Your Hospitality Community"

RECEIVED

OCT 10 2014

MPWMD

September 25, 2014

Mr. Dave Stoldt  
Monterey Peninsula Water Mgmt. District  
5 Harris Court  
Monterey, CA 93940

Dear Mr. Stoldt: *Dave*

On behalf of the Monterey County Hospitality Association Board of Directors and Golf Committee, we want to thank you for your participation as a Hole in One Par 3 Sponsor for the 24<sup>th</sup> Annual Nick Lombardo Memorial Golf Tournament at The Nicklaus Club Monterey on August 25<sup>th</sup>.

The purpose of MCHA is to act as the advocate for its members and the Monterey County hospitality industry in general. We foster, protect and educate our members on matters affecting the viability of the industry. MCHA represents the hospitality industry throughout Monterey County which is the second largest industry generating more than \$2,000,000,000 in direct visitor spending while employing more than 23,000 people.

Because of your generous support, we are able to fund programs such as the valuable work of our government affairs committee that has been working diligently on your behalf on water issues, Hwy 156, storm water issues and reconfiguration of the Monterey Conference Center, among many other concerns. We also offer quality educational seminars as well as recognition programs that are key to employee development.

The Nick Lombardo Memorial Golf Tournament is one of two fundraisers for MCHA. Support from industry leaders is a key element in the success of this event and the ongoing activities of our association. Thank you for helping us to surpass our goals.

We appreciate your support and look forward to a great year!

Best Regards,

*John*  
John Turner  
Co-Golf Chair

Best Regards,

*Mark*  
Mark Watson  
Co-Golf Chair

Best Regards,

*Bonnie*  
Bonnie Adams  
Executive Director

*So glad you  
could join us!  
Thank you!*



RECEIVED

SEP 12 2014

MPWMD

September 12, 2014

Dave Potter, Chair and Board of Directors  
Monterey Peninsula Water Management District  
5 Davis Court, Building G  
Monterey, CA 93940

**RE: District 2 Vacancy**

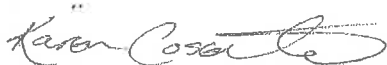
Dear Chair Potter and Board of Directors:

The Monterey County Association of REALTORS® respectfully requests that you appoint Andy Clarke to fill the vacancy on the Monterey Peninsula Water Management District Board of Directors.

While the resignation of Bill Thayer is certainly regrettable, we appreciate the hard work, dedication and time he applied to this important position. We strongly believe that Andy Clarke has the ability to step in and serve in an effective capacity right away. Mr. Clarke's background in water issues and his strong understanding of the unique and challenging dynamics of our region's water situation, make him an excellent replacement for the Board to consider.

Thank you for your time and consideration.

Sincerely,



Karen Cosentino  
President, Monterey County Association of REALTORS®



REALTOR®

REALTOR® is a registered mark which identifies a professional in real estate who subscribes to strict Code of Ethics as a member of the NATIONAL ASSOCIATION OF REALTORS®

201-A Calle Del Oaks, Del Rey Oaks, California 93940  
T: (831)393.8660 F: (831)393.8669 www.mcar.com





## DEPARTMENT OF PUBLIC WORKS

RECEIVED  
SEP 18 2014  
MPWMD

September 12, 2014

David Stoldt  
General Manager  
MPWMD  
P.O. Box 85  
Monterey, CA 93942-0085

Subject: Water Hydrant Meter Permit Renewals

Dear Mr. Stoldt:

In September 2012 you approved water hydrant meter permits for the City of Monterey's portably water hydrant meters that were valid for a period of two years, versus the usual 60-day renewal period. As we re-apply for these permits, I am asking your support in obtaining water hydrant permits valid for two years.

As you are aware, the City of Monterey utilizes mobile portable hydrant water meters for our sewer jet, vactor and water trucks in order to measure water consumption. The City uses these meters continuously, and the water usage is reported monthly to Cal Am.

Because the City uses meters continuously, rather than for short-term construction projects, I believe a bi-annual permit period to be more appropriate than a 60-day renewal period. The longer renewal period is more cost effective and less of an administrative burden for the staff of MPWMD, as well as the staff of the City of Monterey.

Your assistance in this matter is greatly appreciated.

Sincerely,

Danial Pick

Deputy City Manager, Plans and Public Works

e: George Helms, General Services Superintendent/Acting Fleet & Streets Operations Manager

RECEIVED

SEP 15 2014

MPWMD

Gary M. Brant & Ingrid B. Brant Trustees  
of the Brant Family Trust  
8720 River Meadow Road  
Carmel, CA 93923  
831-622-0907 Office  
831-917-5703 Cellular  
[gbrant@sbcglobal.net](mailto:gbrant@sbcglobal.net) Email

9 September 2014

Mr. David Stoldt, General Manager  
Monterey Peninsula Water Management District  
P.O. Box # 85  
Monterey, CA 93942

BY US MAIL  
BY EMAIL

Subject : Well Use Agreement dated 7 August 1997 between the  
Monterey Peninsula Water Management District  
& Gary and Ingrid Brant Trustees of the Brant Family Trust

Dear Mr. Stoldt,

I thought it might be a good time to follow up with you and your staff concerning our former Well Use Agreement and the Well which the MPWM District constructed on our property. Since we had our morning meeting at the Carmel Valley Roasting Company facility in the Mid-Valley Shopping Center, not too much has happened.

I've attached a number of items concerning the well which the District installed on our property at the end of River Meadow Road; I believe the District refers this well as the Shulte South Well. The items enclosed are as follows :

1. Our letter to you dated 11 June 2013 concerning the status of the Well Use Agreement.
2. A copy of the Well Use Agreement dated 7 August 1997.
3. Our letter to the District changing our ownership and address information per the Agreement.
4. Memorandum of Agreement signed by Darby W. Fuerst concerning the Well Use Agreement.
5. Henrietta Stern's Confirmation Exemption for Purchase of MPWMD Irrigation Well to create Brant Water Distribution System.
6. Larry Hampson's most recent Draft Temporary Well Use Agreement dated 15 July 2014 with some of our notations.

I'd like to put our present situation into perspective by providing the following :

1. The Well Use Agreement referenced above and attached was for 10 years with two five year options. The Original Agreement was in effect from 7 August 1997 and ran for an initial period of ten years. The Agreement expired in 2007 when the Options for extension were not exercised.

We are now in 2014 with no Agreement. Our letter to you of 11 June 2013 outlines where we believe we stand.

2. Henrietta Stern's letter of 27 March 2006 Confirms Exemption for Purchase of MPWMD Irrigation Well to create Brant Water Distribution System. We're not sure why it is necessary to do this over again as is suggested in Larry Hampson's latest Draft Temporary Well Use Agreement.
3. Both my wife and I have supported the objectives of the District which includes the use of our property and water rights for over 20 years; the use of the Well was for ten of those years. We contributed funds and personal effort towards the District's objectives, 9 River Meadow Ranch Associates, LLC in which I was a Partner, to improve the Riparian Habitat along our reach of the Carmel River.
4. Since our Agreement has expired the following has taken place :
  - a. A lock to limit all access has been placed by us on the gate leading to the Well Site.
  - b. The PG&E account has been transferred to our names.
  - c. The Well which has not operated for in excess of two years has been repaired and paid for by us.

We propose that Brian Finegan, our attorney, draft an Interim Revocable License to allow the MPWMD District to use the Well, for one 60 day period. That should allow the time necessary for the District to confirm the basis for our legal use of 1 Ac. Ft. of water from the well annually for both potable and irrigation purposes. We continue to contend that this use has already been determined exempt as provided in Henrietta Stern's letter of March 27, 2006. If you believe that Henrietta Stern was wrong, and that some other process is necessary, then let's start that process now. You indicated that 30 days would be sufficient for comment; if additional time is required we can look at that at the end of the sixty day License period. We've been fooling around with this for too long going back and forth with no resolution. We have continued to support the District's objectives and will continue to do so but it's time to get this done for everyone's benefit. Once we obtain the use of 1 Ac. Ft. per year we can execute a longer term agreement for shared use. As Henrietta Stern said in her letter such an agreement will "facilitate continued cooperation" between us and the MPWMD.

Salinas Pump has advised me that plastic wells are productive on average for 25 years. The Well has been there for 17 years and the original Agreement with extensions only contemplated 20 years. Maybe we're dealing with 8 years of remaining Well life. We've been out of contract for 7 years and I'm not sure that what we're arguing about is worth it. I would hope we can do something that makes sense if not I have another well that can serve this parcel and will go forward with its use which doesn't help the District at all.

Should you require any further information or if we need to meet to resolve this issue we are available.

Sincerely,



Gary M. Brant  
Trustee



Ingrid B. Brant  
Trustee

Cc: Brian Finegan  
Larry Hampson

**Gary M. Brant**  
8720 River Meadow Road  
Carmel, California 93923  
(831) 625-9694 Home  
(831) 622-0907 Office  
(831) 917-5703 Cellular  
[gbrant@sbcglobal.net](mailto:gbrant@sbcglobal.net)

RECEIVED

JUN 14 2013

MPWMD

11 June 2013

Mr. David Stoldt, General Manager  
Monterey Peninsula Water Management District  
P.O. Box # 85  
Monterey, CA 93942

Subject : Well Use Agreement dated 7 August 1997  
Monterey Peninsula Water Management District  
& Gary & Ingrid Brant Trustees of the Brant Family  
Trust

Dear Mr. Stoldt,

Approximately 13 years ago my wife and I executed the Well Use Agreement referenced above. This Agreement had a 10 year life with options for extensions.

This letter is to inform the Monterey Peninsula Water Management District of the following :

1. The original Agreement has expired.
2. The option to extend has not been exercised by the District.
3. The District has abandoned the well.

I had a conversation with Mr. Thomas Christenson this afternoon and he is aware of the status of the well and its non-use. He advised me that the District wants to be able to use the well in the near future.

If the District in fact wishes a future use of the well, I would suggest that we schedule a meeting to discuss the terms on which that might be accomplished.

I have also copied Larry Hampson as he was involved in the establishment of the Agreement.

Should you have any questions in the interim please do not hesitate to contact me.

I look forward to hearing from you.

Sincerely,

*Gary M. Brant*  
Gary M. Brant

*Ingrid B. Brant*  
Ingrid B. Brant

Cc: Larry Hampson  
Tom Christenson

**Gary M. Brant**  
 8720 River Meadow Road  
 Carmel, California 93923  
 (831) 622-0907 Office  
 (831) 622-0947 Office Fax  
 (831) 917-5703 Cellular  
 gmb@brantfamilytrust.com e-mail

**RECEIVED**

DEC 15 2005

**MPWMD**

30 November 2005

Monterey Peninsula Water Management District  
 5 Harris Court, Building G  
 Monterey, CA 93940

VIA CERTIFIED MAIL

Subject : Well Use Agreement and Memorandum of Agreement  
 ( Dated 7 August 1997 and enclosed)  
 GMB & Associates, Inc and the Monterey Peninsula  
 Water Management District

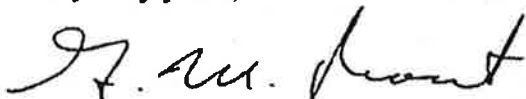
Dear Monterey Peninsula Water District,

Enclosed with this letter is a fully executed copy of the Well Use Agreement and the Memorandum of Agreement between the Monterey Peninsula Water Management District and GMB & Associates, Inc.

Pursuant to the provisions of the Agreement, please update your records to reflect the new ownership and notice address for this Agreement. All future notices with respect to this Agreement should be sent as follows :

Gary M. Brant & Ingrid B. Brant Trustees  
 of the Brant Family Trust  
 8720 River Meadow Road  
 Carmel, California 93940

Very truly yours,



Gary M. Brant  
 Trustee

Enclosures

## WELL USE AGREEMENT

### Schulte South Irrigation Well

#### 1. Recitals

Whereas, GMB & Associates, Inc., hereinafter referred to as "Property Owner," owns and controls land described by Assessor's Parcel Number 416-028-020, hereinafter referred to as "Property," and desires to install a well on this parcel to protect the Property from erosion by supporting the irrigation of riparian vegetation.

Whereas, the Monterey Peninsula Water Management District, hereinafter referred to as "District," is a public agency authorized to undertake works and projects for the protection of property along the Carmel River from possible erosion. To this end, the District has designed the Red Rock and Schulte Restoration Projects, hereinafter referred to as "Project," to reduce potential erosion from riverflows on the Property, as well as other adjacent properties. The District desires to irrigate riparian vegetation planted as a part of this Project to ensure the survival of the vegetation.

Therefore, the Property Owner and District do hereby agree to the following :

#### 2. Installation and Location

The Property Owner, together with its agents, successors and assigns, grants to the District, its agents, successors and assigns, the right to drill, install, test, operate and maintain an irrigation well that is up to two hundred (200) feet deep and ten (10) inches in diameter and constructed in accordance with the District's call for Bids dated April 1977.

The location of the irrigation well shall be within a twenty (20) foot by twenty (20) foot well site described in Exhibit A, incorporated herein by reference and made a part of this Agreement. The District shall provide the Property Owner one (1) three-(3) inch diameter pipe outlet located within the well site that is capable of providing water from the well for the exclusive use of the Property Owner on the Property. Supply of water from the well to this outlet shall be in accordance with the District's reasonable ability to provide it but may be interrupted or discontinued without notice or obligation to provide a substitute supply. Water use from this outlet shall be metered.



### 3 Ownership of the Well

The Well and all of its Appurtenances shall be the property of the District for the duration of this Agreement, unless the Property Owner becomes owner of the well and appurtenances through the process described in this Section of the Agreement.

The Property Owner shall retain for the total length of this Agreement the right to purchase the Well and all of its appurtenances as provided in this Section. The Property Owner may provide the District with a notice of his intent to purchase the Well and its appurtenances. Upon receipt of such notice the District will be obligated to complete the purchase and sale of the Well and its appurtenances. The Property Owner and the District shall jointly agree on a value of the well and appurtenances based on their condition at the time, taking into account the duration of the District's use of the well, which value shall not exceed \$35,000.00. If the parties cannot agree otherwise, the value shall be \$35,000.00, and the Property Owner shall pay this amount to the District. Upon payment in full to the District of the agreed upon value of the well and appurtenances the Property Owner shall become owner of the well.

So long as it owns the well, the District at its sole discretion may choose to abandon use of the well. The District will provide the Property Owner with thirty (30) days prior notification of its intent to abandon the Well. If the Property Owner chooses not to continue the use of this well, then the District shall destroy (permanently abandon) the well in accordance with Monterey County regulations. If the Property Owner wishes to continue use of the well after the District has stated its intent to abandon it, the Property Owner shall notify the District of its intent to purchase the well within thirty (30) days of receiving notification of the District's intention to abandon the well. The Property Owner and the District shall jointly agree on a value of the well and appurtenances based on their condition at the time, taking into account the duration of the District's use of the well, which value shall not exceed \$35,000.00. If the parties cannot agree otherwise, the value shall be \$35,000.00 and the Property Owner shall pay this amount in full to the District. The Property Owner shall then become owner of the well and appurtenances and from that time forward shall be responsible for all costs of operating and maintaining the well. The Property Owner further agrees that if the Property Owner subsequently chooses to discontinue the use of this well, then the Property Owner shall destroy (permanently abandon) the well in accordance with Monterey County regulations.

### 4 Responsibility for Costs

The District shall bear sole responsibility for all costs of drilling, supplying electrical power, installing and testing the well. The District shall pay for installation of the electrical meter, and the electrical service shall be in the District's name unless or until the Property Owner becomes owner of the well.

The District shall record the water use of the Property Owner and the District and shall provide the Property Owner with a formula for sharing costs of operation which shall be in proportion to the actual amount of water used by each party to this Agreement. The District shall use a cumulative total of water use to determine the pro rata share of costs for operation, maintenance, and repair of the well. See Section 10 of this Agreement, Well Maintenance and Repair, regarding responsibility for conducting maintenance and repair. **The Property Owner shall pay for his pro rata share of operation, maintenance and repair costs associated with the Property Owner's use of the well within thirty (30) days of the presentation of a bill for such use.**

The District shall keep the Well Area and Property free and clear of mechanic's or similar liens arising from any work of design, construction, repair, restoration, replacement or improvement to the Well Area by District, and District shall pay or cause to be paid any lien, claim or demand before any action is brought to enforce such a lien against the Well Area or Property. District shall indemnify and hold Property Owner free and harmless from any and all liability for such mechanic's liens or demands, together with costs and expenses in connection therewith, including reasonable attorney's fees. This obligation shall be assumed pro-rata by the Property Owner and the District in the event the Property Owner exercises the option to become owner of the well.

The District shall give the Property Owner sufficient advance notice of the commencement of any construction to be performed at or upon the Well Area to allow the Property Owner time, and shall permit Property Owner or its agents to enter the Well Area upon reasonable notice to District, to post thereon notices of non-responsibility or such other notices as are required by law or appropriate for the protection of Property Owner's interest in the Well Area from mechanic's liens or liens of a similar nature.

#### 5. Well Site Appearance

The Well shall be placed within the 20 foot by 20 foot well site described in Exhibit A. Following installation and except for periods of testing, repair or maintenance, the well shall be protected by a fence of a style approved by the mutual agreement of the District and the Property Owner. The fenced area shall be large enough to accommodate all appurtenances necessary for the proper functioning of the well and irrigation system, but in no event shall the fence exceed the limits of the well site described in Exhibit A.

#### 6. Location of Utilities and Waterlines

At its expense, the District shall provide the electrical connection furnishing single phase power to the well site. All electrical utilities shall be in underground conduits in conformance with utility company standards. At its expense, the District shall establish an electrical meter connection at the well site. The District shall have the right to install a timed electrical irrigation system for use in irrigating the Project. All irrigation mainline water pipes shall be installed underground on the Property between the well site and points of connection to the Project irrigation system. Irrigation standby pipes may extend

above grade in several locations with the approval of the Property Owner. Plans and specifications for improvements shall be reviewed and approved by the Property Owner prior to installation. Maintenance of the Project irrigation system shall be at the discretion of the District. All Project irrigation equipment and materials installed by the District for the application of irrigation water to the Project shall be the property of the District.

7. Description of Well Use

The use of this well by the District shall be limited to the production of water to irrigate riparian vegetation along the banks and terraces of the Carmel River within an area defined as two thousand (2,000) feet upstream and two thousand (2,000) feet downstream of the well location. The use of this well by the Property Owner shall be limited to non-potable uses for irrigation of vegetation and livestock-related purposes on the portion of the Property that overlies the alluvial aquifer of the Carmel River (the terrace). If the Property Owner becomes owner of the well and its appurtenances through the process described in Section 3 of this Agreement, there shall not be a limitation on the place of or type of use of water from this well by reason of this Agreement. This provision, however, shall not be construed as a grant of permission or issuance of a permit by the District to enable Property Owner's creation or operation of a water distribution system under Section 363 of the District Law. This Agreement shall not replace or limit any other regulatory or permit process which may apply to the use of this well by Property Owner or others.

8. Right-of-Entry

The District, its agents and assigns shall have a right-of-entry, together with personal property and equipment necessary to effect this Agreement, onto the Property for the purposes of drilling, installing, operating, testing, maintaining and repairing the well and Project irrigation system subject to the following restrictions:

a. All maintenance and repair work shall be carried out during normal business hours from 8 a.m. to 5 p.m. on Monday through Friday. If it is necessary to maintain or repair the well at other times, the District shall obtain permission from the Property Owner for entry for maintenance and repair. The only exception to this is for an emergency declared by the District Engineer during which all reasonable attempts shall be made by the District to inform the Property Owner of the need for entry onto the Property.

b. Entry shall be over existing roads and access onto the Property. The Property Owner reserves the right to relocate any access to the well site.

9. Irrigation Water Schedule and System Operation

The Property Owner, together with its agents, successors, and assigns, grants to the District, and its agents, successors and assigns, the right to use water produced from the

well for irrigation of riparian vegetation along the Carmel River within the Project from a well located on the Property subject to the following conditions :

a. The District shall cooperate with the Property Owner to provide adequate volume and water pressure for the Property. The District shall have use of the well during periods of time when supplemental irrigation is needed, as determined by the District, to sustain riparian vegetation and erosion protection plantings in the Project area. The District shall be allowed to operate its irrigation system Monday through Friday, for periods up to 20 hours per day, up to a maximum of sixty (60) hours per week. During these periods, the District shall have the right to use up to one-hundred (100) gallons per minute (gpm) of water from the well.

b. If, by appropriate testing, it is determined that the well's production falls below 35 gallons per minute (gpm), then the District and the Property Owner shall promptly agree on repairs or improvements to the system which will provide adequate water for both the Project and the Property. The District reserves the right to make those repairs or improvements. For repairs or improvements which are required to meet the water needs of both parties, the District and the Property Owner agree to negotiate reimbursement of a fair share of the costs of such repairs or improvements. Costs of repairs and improvements which are required only for the needs of a single party shall be borne by that party. If the District elects not to make repairs or improvements, then the Property Owner and the District shall agree on a revised schedule of use.

#### 10. Well Maintenance and Repair

The District shall be responsible for conducting maintenance and repair of the well and appurtenances which are common to the operation of the District's irrigation system and the Property Owner's outlet. For such repairs, the District reserves the right to cause the repairs to be made or to contract for such repairs, or to discontinue use of the well. Responsibility for the costs of maintenance and repair of the well shall be as specified for the costs of well operation, maintenance, and repair in Section 4 of this Agreement.

#### 11. Maintenance of Project Irrigation System

At its discretion, the District shall be solely responsible for the operation, maintenance and repair of the Project irrigation system. For purposes of this Agreement, the Project Irrigation System begins at the discharge side of the water meter installed to measure the District's water use.

#### 12. Length of Agreement

It is the District's intent to use water to establish riparian vegetation within the Project and, thereafter, to maintain the vegetation in a healthy state during periods of drought. Therefore, the conditions of this agreement shall be in full force for a period of ten (10) years, beginning with the Recordation of this Agreement.

The District shall have the option to extend this Agreement in five (5) year increments not to exceed an additional ten (10) years. The District, however, shall retain the option to terminate operation of the well at its sole discretion.

13. Hold Harmless Agreement

The District shall indemnify, defend, and hold harmless the Property Owner from any and all liability which may occur as a result of the operation, maintenance and repair of the well or repair of the Project irrigation system installed by the District, as described in the Agreement. In all circumstances, the effect of this offer to indemnify, defend and hold harmless under this paragraph is limited, and under no circumstances shall the aggregate costs paid by the District pursuant to this indemnity provision exceed \$1,000,000.00. This provision shall not create a presumption or inference that any future damage or loss has been caused by the District and/or its agents, contractors, inspectors, or employees during the operation, maintenance or repair of the well, Project, or otherwise.

14. Recordation

A memorandum of this Agreement shall be recorded in the Office of the Monterey County Recorder. All expenses related thereto shall be the sole responsibility of the District.

15. Covenant to Run with the Land

As the operation, maintenance and repair of the described riparian irrigation system for the Project shall be used for Project works, the parties intend this Agreement to run with the land and to be binding upon all successors in interest to the parties without restriction, except as to term as written in the provisions for Length of Agreement.

16. Resolution of Disputes

Should any dispute arise regarding this Agreement, the prevailing party shall be entitled to its reasonable attorney fees and costs, including costs of experts.

17. Hazardous Materials

The District shall comply with all laws and regulations, including the giving of required notices, relative to the possession, storage, use, release, discharge, disposal or omission of or from the Well Area by District or District's agents and contractors of any toxic, hazardous or pollution substance (including, petroleum, crude oil and any fraction thereof) in any form whatsoever. District shall provide the Property Owner with copies of any "business plan" prepared and filed by District pursuant to the requirements of Health and Safety Code Section 25500 and following, as well as any changes made thereto. District shall also promptly notify Property Owner in writing of any release or threatened release of a toxic, hazardous or polluting substance or material (including petroleum, crude oil

and any fraction thereof) from or upon the Property which results from District's activities or those of District's agents or contractors or of which District otherwise becomes aware, which required reporting under Health and Safety Code 25507. To the extent arising from District's activities, District shall promptly and fully investigate, report, characterize and remediate any contamination in, on, over or under the Property Owner's Property caused by the possession, use, storage, release, discharge, disposal or emission of any toxic, hazardous or pollution substance (including petroleum, crude oil and any fraction thereof), and shall indemnify, defend, and hold Property Owner harmless from any and all loss, injury, death or damage, and all costs of all regulatory or enforcement proceedings, fines, penalties and the costs of consultants, experts, attorneys and other professionals, arising out of or as a result of the presence or claimed presence in, on over or under the Property of any toxic, hazardous or polluting substance (including petroleum, crude oil and any fraction thereof) to the extent arising from District's activities on the Property.

The Property Owner shall comply with all laws and regulations, including the giving of required notices, relative to the possession, storage, use, release, discharge, disposal or omission of or from the Well Area by Property Owner or Property Owner's agents and contractors of any toxic, hazardous or pollution substance (including, petroleum, crude oil and any fraction thereof) in any form whatsoever. Property Owner shall provide the District with copies of any "business plan" prepared and filed by Property Owner pursuant to the requirements of Health and Safety Code Section 25500 and following, as well as any changes made thereto. Property Owner shall also promptly notify District in writing of any release or threatened release of a toxic, hazardous or polluting substance or material (including petroleum, crude oil and any fraction thereof) from or upon the Well Area which results from Property Owner's activities or those of Property Owner's agents or contractors or of which Property Owner otherwise becomes aware, which required reporting under Health and Safety Code 25507. To the extent arising from Property Owner's activities, Property Owner shall promptly and fully investigate, report, characterize and remediate any contamination in, on, over or under the Well Area caused by the possession, use, storage, release, discharge, disposal or emission of any toxic, hazardous or pollution substance (including petroleum, crude oil and any fraction thereof), and shall indemnify, defend, and hold District harmless from any and all loss, injury, death or damage, and all costs of all regulatory or enforcement proceedings, fines, penalties and the costs of consultants, experts, attorneys and other professionals, arising out of or as a result of the presence or claimed presence in, on over or under the Well Area of any toxic, hazardous or polluting substance (including petroleum, crude oil and any fraction thereof) to the extent arising from Property Owner's activities on the Well Area.

18. Default / Remedies of Default

In the event the District fails to perform or observe any other agreements, covenants or conditions of the Agreement, on the part of District to be performed, and such failure is not cured with thirty (30) days after the date of which Property Owner gives the District written notice of District's default, Property Owner may then elect in addition to any other remedies that may be available to Property Owner at law or in equity

to terminate this Agreement upon thirty (30) days written notice unless within such thirty (30) days, such Event of Default has been cured.

19. Notices

Any notice or other written communication required or permitted herein shall be in writing and may be delivered personally or by express delivery service, telegram, telephonic facsimile, or by United States mail, registered or certified, postage prepaid with return receipt requested, addressed to the party for whom intended as follows :

Property Owner      Mr. Gary M. Brant, President  
                                 GMB & Associates, Inc.  
                                 9781 Blue Larkspur Lane  
                                 Monterey, California 93940

District                      General Manager  
                                 Monterey Peninsula Water Management District  
                                 187 El Dorado Street  
                                 P.O. Box # 85  
                                 Monterey, California 93942-0085

GMB & Associates, Inc.  
A California Corporation

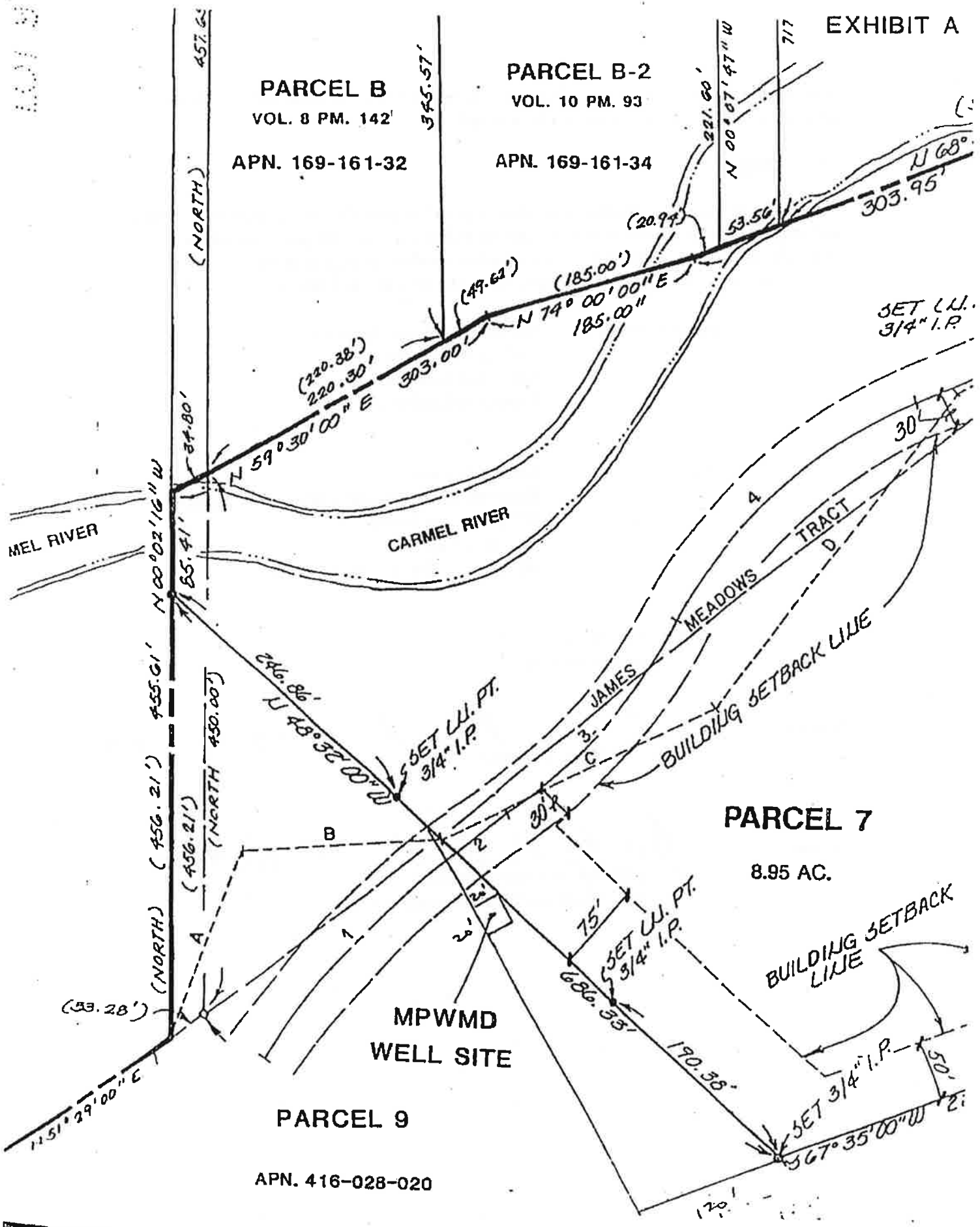
Signed :      By : *Gary M. Brant*      Date : 7 August 1997  
                                 Gary M. Brant, President

Signed :      *Darby W. Fuerst*      Date : 8/7/97  
                                 Darby W. Fuerst, General Manager  
                                 Monterey Peninsula Water Management District

EXHIBIT A

**PARCEL B**  
 VOL. 8 PM. 142  
 APN. 169-161-32

**PARCEL B-2**  
 VOL. 10 PM. 93  
 APN. 169-161-34





Recording requested by :

Monterey Peninsula Water Management District

When recorded mail to :

Monterey Peninsula Water Management District  
P.O. Box # 85  
Monterey, CA 93942-0085

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**MEMORANDUM OF AGREEMENT**

This Memorandum of Agreement is executed in connection with that certain Well Use Agreement dated 7 August 1997 between the Monterey Peninsula Water Management District and GMB & Associates, Inc. a California Corporation ("the Agreement").

The Agreement relates to real property owned by GMB & Associates, Inc. consisting of a portion of the real property described in Exhibit "A" hereto ("the Subject Property").

Under the terms of the Agreement, the Monterey Peninsula Water Management District is allowed to drill, install, test, operate and maintain an irrigation well on the Subject Property.

The Agreement also contains an option for GMB & Associates, Inc., or its successors in interest to acquire the well from the Water Management District under certain conditions.

The terms of the Agreement are binding on the parties' successors and assigns.

**Landowner**

**GMB & Associates, Inc.  
A California Corporation**

By : *Gary M. Brant* Date : 8/7/97  
Gary M. Brant, President

**Monterey Peninsula Water Management District**

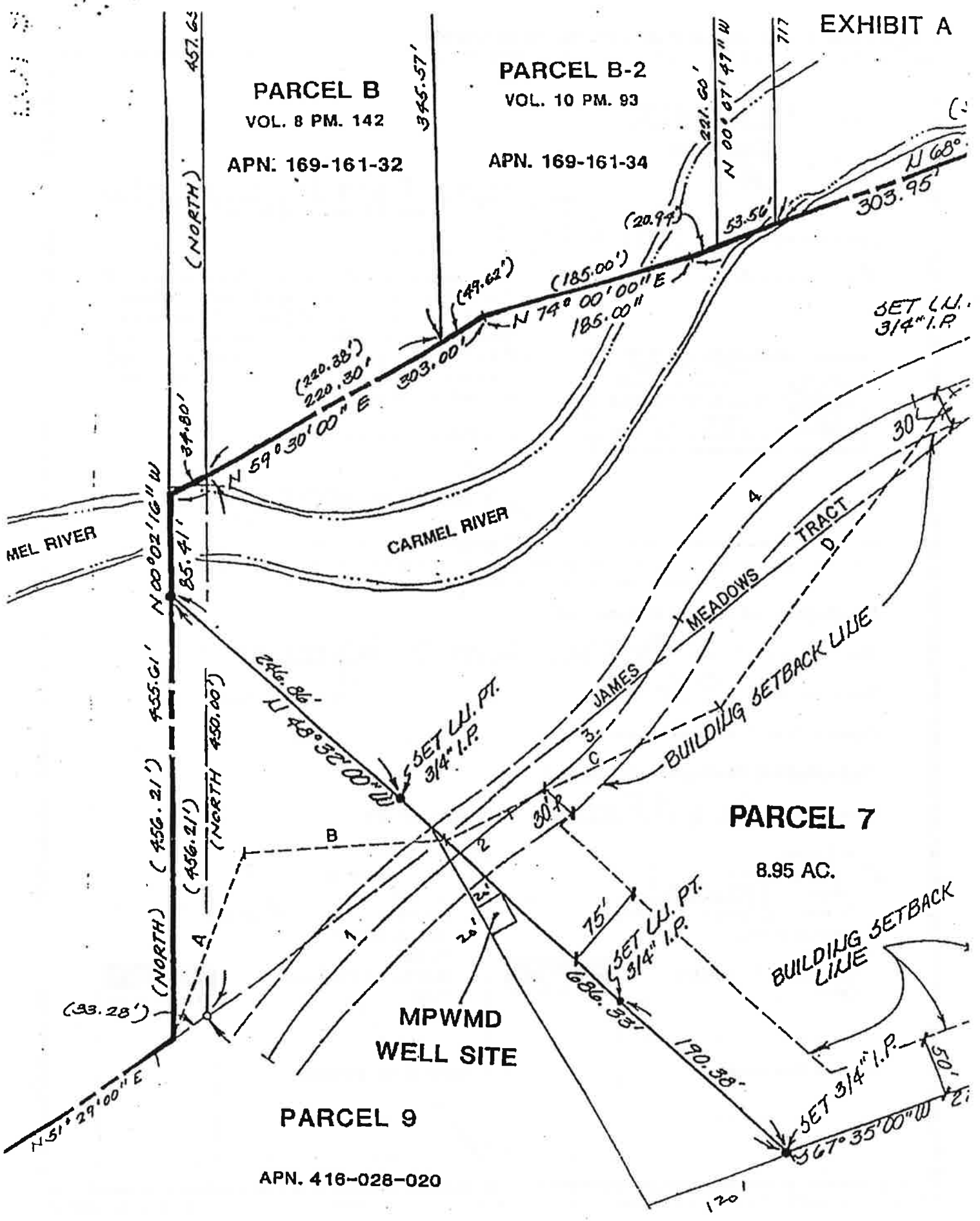
By : *Darby W. Fuerst* Date : 8/21/97  
Darby W. Fuerst, General Manager

**PARCEL B**  
 VOL. 8 PM. 142  
 APN: 169-161-32

**PARCEL B-2**  
 VOL. 10 PM. 93  
 APN: 169-161-34

**PARCEL 7**  
 8.95 AC.

**PARCEL 9**  
 APN. 416-028-020



# CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

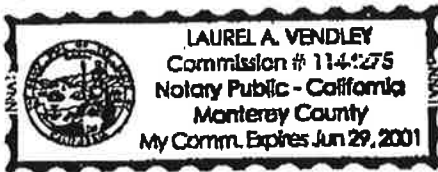
State of California

County of Monterey

On 8-11-97 before me, Laurel A. Vendley, Notary Public,  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Gary M. Brant  
Name(s) of Signer(s)

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Laurel A. Vendley  
Signature of Notary Public

### OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

### Description of Attached Document

Title or Type of Document: Memorandum of Agreement

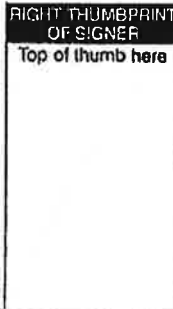
Document Date: 8-7-97 Number of Pages: 2

Signer(s) Other Than Named Above: \_\_\_\_\_

### Capacity(ies) Claimed by Signer(s)

Signer's Name: Gary M. Brant

- Individual
- Corporate Officer  
Title(s): President
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_



Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

- Individual
- Corporate Officer  
Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_



Signer Is Representing: \_\_\_\_\_

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

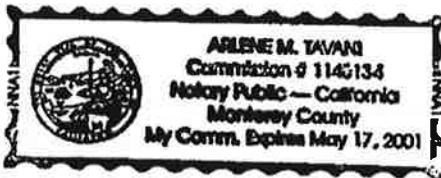
State of California

County of Monterey

On 8-21-97 before me, Arlene M. Tavani, Notary Public  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Darby W. Fuerst  
Name(s) of Signer(s)

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Arlene M. Tavani  
Signature of Notary Public

**OPTIONAL**

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

**Description of Attached Document**

Title or Type of Document: Memorandum of Agreement

Document Date: 8-7-97 Number of Pages: 3

Signer(s) Other Than Named Above: Gary M. Brant

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: Darby W. Fuerst

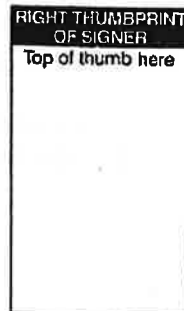
- Individual
- Corporate Officer
- Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: General Manager



Signer Is Representing:  
MPWMD

Signer's Name: \_\_\_\_\_

- Individual
- Corporate Officer
- Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_



Signer Is Representing: \_\_\_\_\_



**MONTEREY PENINSULA  
WATER MANAGEMENT DISTRICT**

5 HARRIS COURT, BLDG. G  
POST OFFICE BOX 85  
MONTEREY, CA 93942-0085 • (831) 658-5600  
FAX (831) 644-9560 • <http://www.mpwmd.dst.ca.us>

March 27, 2006

Gary Brant  
8720 River Meadow Road  
Carmel Valley, CA 93923

**SUBJECT: CONFIRM EXEMPTION FOR PURCHASE OF MPWMD IRRIGATION  
WELL TO CREATE BRANT WATER DISTRIBUTION SYSTEM; APN  
416-028-027**

Dear Mr. Brant:

This letter confirms Monterey Peninsula Water Management District (MPWMD) staff review of the Pre-Application form submitted on February 28, 2006 for the proposed BRANT Water Distribution System (WDS), which entails purchase of a riparian corridor irrigation well presently owned by MPWMD (located on land owned by the applicant) pursuant to the Well Use Agreement between MPWMD and G. M. Brant executed on August 7, 1997.

The MPWMD staff determination is that this situation is **EXEMPT** pursuant to MPWMD Rules 20-A, 20-C-8 and 20-C-9 for the following reasons:

1. The well is currently owned by MPWMD, and has served and will continue to serve the single legal parcel on which it is located, in addition to being used for irrigation by MPWMD of riparian vegetation on adjacent parcels. (Evidence: MPWMD well records, Brant Pre-Application form dated 2/28/06; August 7, 1997 Well Use Agreement between MPWMD and G. M. Brant).
2. The well was constructed, metered and operational in 1998, before the adoption of Ordinance No. 96 in 2001, and no production limits were set on the well. (Evidence: MPWMD well records).

An amended Well Use Agreement will be executed to facilitate continued cooperation and riparian irrigation with Mr. Brant as the well owner rather than MPWMD. The non-limiting intent of Section 7 of the August 7, 1997 Well Use Agreement is also acknowledged.

**Permit Processing Fee:** MPWMD Rule 60, as amended by Ordinance No. 122, requires a \$50 flat fee for a Confirmation of Exemption. Please make your check payable to MPWMD.

Gary Brant  
March 27, 2006  
Page 2

**Appeal of Staff Decision:** This determination of exemption is a determination of the MPWMD General Manager, and as such, may be appealed to the District Board in writing within twenty-one (21) days of the date of this letter pursuant to MPWMD Rule 70. An appeal may be filed by the affected property owner or by any other person. If an appeal is initiated, the proper form must be completed, submitted and received by the MPWMD on or before 4:30 PM on April 17, 2006.

Please call me at 831/658-5621 if you have questions.

Sincerely,



Henrietta Stern  
Project Manager

Cc: Andy Bell

**Temporary Well Use Agreement  
Between  
Brant Family Trust dated June 4, 1998  
(Gary M. and Ingrid B. Brant, Trustees)  
And  
Monterey Peninsula Water Management District**

1. Recitals

Whereas, Gary M. Brant and Ingrid B. Brant, Trustees of the Brant Family Trust dated June 4, 1998, hereinafter referred to as "Property Owner," own and control a well site described in Exhibit A, incorporated herein by reference and made a part of this Agreement on land described by Assessor's Parcel Number 416-028-027 [VOL 24 SUR MAPS PG 16 NLY PAR 3; EXC POR AS DESC IN DOC #2002030505, 110.59 AC APPROX.], hereinafter referred to as "Property;" and

Whereas, the Monterey Peninsula Water Management District, hereinafter referred to as "District," is a public agency that installed and owns an irrigation well on the Property to irrigate riparian vegetation planted as a part of the Red Rock and Schulte Restoration Projects, hereinafter referred to as "Project" to ensure the survival of the riparian vegetation along the Carmel River; and

Whereas, the District operated a well on the Property continuously between 1988 and 2013; and

Whereas, the District and the Property Owner previously executed a Well Use Agreement in August 1997 that allowed the District to use the well for irrigation and granted the Property Owner a connection for irrigation purposes; and

Whereas, said Well Use Agreement with the Property Owner expired in August 2007; and

Whereas, the Property Owner desires to cooperate with the District on a temporary basis to allow the District to access and use the well for the continued operation and maintenance of the well; and

Whereas, the Property Owner and the District desire to negotiate a long-term agreement for well ownership and water use by the Property Owner and the District; and

Whereas, the Property Owner desires to amend the existing use of the well to allow a connection to the well for potable water use for a single family dwelling on the Property; and

Whereas, the District has maintained a long-term record of water production from the well between 1988 and 2013; and

Whereas, the District believes that a change in use of the well from irrigation-only to allow both irrigation for the streamside corridor and domestic supply for a single residential unit on the



Property may be approved under current District Rules, subject to requirements described below in *Section 9. Steps Required for Completion of a Long-Term Agreement*; however, the District makes no guarantee that a change in use will be approved; and

Whereas, the Carmel River streamside corridor is facing a third dry or critically dry summer in a row; and

Whereas, irrigation of the riparian corridor is required to maintain streamside vegetation during dry periods.

Therefore, the Property Owner and District hereby agree to the following Temporary Well Use Agreement:

## 2. Right-of-Entry

The District, its agents and assigns shall have a right-of-entry onto the Property for the purposes of operating, maintaining and repairing the well and District irrigation equipment subject to the following restrictions:

- a. All maintenance and repair work shall be carried out between the hours of 8:00 AM and 5:00 PM, Monday through Friday. At all other times, the District shall obtain permission from the Property Owner for entry for maintenance and repair work. The only exception to this limitation is for an emergency declared by the District Engineer, during which all reasonable attempts shall be made by the District to inform the Property Owner of the need for entry onto the Property.
- b. Entry shall be over existing roads and access onto the Property. The Property Owner reserves the right to relocate access.

## 3. Description of Well Use

The Property Owner, together with its agents, successors, and assigns, grants to the District, its agents, successors, and assigns, the right to use the well located on the Property to irrigate riparian vegetation along the Carmel River within the Project subject to the following conditions:

- a. The District shall have use of the well during periods of time when supplemental irrigation is needed, as determined by the District, to sustain riparian vegetation and erosion protection plantings in the Project area. The District shall be allowed to operate its irrigation system Monday through Friday, for periods up to 20 hours per day, up to a maximum of thirty (30) hours per week.
- b. If, by appropriate testing, it is determined that the well's production falls below twenty (20) gallons per minute (gpm), the District and the Property Owner shall promptly agree on repairs or improvements to the system to restore well production to 20 gpm.

The use of this well by the District shall be limited to the production of water to irrigate riparian vegetation along the banks and terraces of the Carmel River within an area defined as two thousand (2,000) feet upstream and two thousand (2,000) feet downstream of the well location. The District shall, upon request, provide a record to the Property Owner of water use and the costs of operating and maintaining the well.

#### 4. Responsibility for Well Costs

Except for repairs described below in *Section 9. Steps Required for Completion of a Long-Term Agreement*, the District shall be responsible for all costs associated with the operation and maintenance of the well. If the District and Property Owner cannot agree on required repairs, a mutually acceptable consultant shall be hired to render an opinion. Such opinion shall be binding upon both parties.

#### 5. Maintenance of Riparian Irrigation System

The District shall bear sole responsibility for the operation, maintenance and repair of the riparian irrigation system for the Project. For the purposes of this agreement, the riparian irrigation system begins downstream of the water meter installed to measure the District's water use.

#### 6. Length of Agreement

It is the District's intent to use water to maintain the health of riparian vegetation within the Project during calendar years 2014, 2015, and 2016. Therefore, this agreement shall be in full force until December 31, 2016, unless a permanent agreement supersedes this Temporary Well Use Agreement. This agreement may be extended by mutual consent of each party.

#### 7. Hold Harmless Agreement

The District shall indemnify, defend, and hold harmless the Property Owner from any and all liability which may occur as a result of the operation, maintenance and repair of the well or repair of the Project irrigation system installed by the District. In all circumstances, the effect of this offer to indemnify, defend and hold harmless under this paragraph is limited, and under no circumstances shall the aggregate costs paid by the District pursuant to this indemnity provision exceed \$1,000,000.00. This provision shall not create a presumption or inference that any future damage or loss has been caused by the District and/or its agents, contractors, inspectors, or employees during the operation, maintenance or repair of the well, the Project, or otherwise.

#### 8. Negotiation of Long-term Agreement

The District and Property Owner agree to negotiate in good faith toward a long-term agreement for water use and transfer of ownership of the well from the District to the Property Owner. The long-term agreement shall address (at a minimum) the process and criteria for the Property Owner to purchase the well from MPWMD and address the rights and responsibilities of the Property Owner and the District for operation and maintenance of the well. Execution of a long-

term agreement between the parties shall be a condition of any permit issued by the District to allow a change in use of the well.

#### 9. Steps Required for Completion of a Long-Term Agreement

**Step 1: Well Repair Test:** At the last inspection of the well by the District in 2013, the well was not operational. The Property Owner shall perform a well test and report findings and recommendations for repairs to the District within 30 days of the date of the final signature(s) to this agreement shown below. Results of the well test shall be presented in writing to the District.

**Step 2: Well Repairs:** If the District determines that well repairs are economically feasible (i.e., do not exceed the cost for re-establishment of the well or for obtaining water from another source for irrigation of the streamside corridor), the District shall contract for or carry out well repairs as prescribed in the well repair test within 45 days of receipt of well repair test results and recommendations. If the District determines that well repairs are not in the best interest of the District, the District may elect to terminate this agreement.

**Step 3: Application for an Amended District Water Distribution System Permit:** The District and Property Owner will jointly complete an application and attachments for an Amended Water Distribution System Permit (Amended Permit) as described in Exhibit B. The application fee for a Level 3 determination shall be waived by the District; however, the Property Owner shall reimburse the District for all costs associated with a legal review by District Counsel of water rights information submitted by the Property Owner. The Property Owner shall be responsible for obtaining a Monterey County Health Department certification of adequate quantity/quality (for drinking water). The application submittal is to be made within 90 days of the date of the final signature of this agreement shown below. The District shall determine if the application is complete within 30 days after submittal and notify the Property Owner of any additional information needed to complete an application.

**Step 4: Review of water rights:** The District shall determine if the Property Owner has adequate water rights within 60 days of the submittal of all water rights information.

**Step 5: Draft Findings of Approval and Draft Permit Conditions:** The District will develop draft findings of approval and draft permit conditions within 90 days from a determination of a complete application (determination of a complete application includes review of water rights). Draft Findings of Approval shall include setting Connection and System Limits for an Amended Water Distribution System Permit.

**Step 6: Notice of Action by the District:** If the previous Steps 1 through 5 are completed and the District makes a determination under the California Environmental Quality Act about a proposed change in use of well water, the District shall post a notice of its determination with the Monterey County Recorder within 30 days of completion of Steps 1 through 5. The District makes no guarantee that a change in use will be approved and reserves the right to reject the Property Owner's request of a change in use, if such an action would violate the District's Rules and Regulations or requirements for issuing an Amended Permit.

**Step 7: Execution of Long-Term Agreement:** As a condition of an Amended Permit, the District and the Property Owner shall negotiate and execute a long-term agreement as described in Section 8 of this Agreement. Execution of an agreement shall be no sooner than 35 days after posting a notice of determination with the Monterey County Recorder. An Amended Permit shall not be valid until all conditions are satisfied.

This provision and the steps described, however, shall not be construed as a grant of permission or issuance of a permit by the District to enable Property Owner's creation or operation of a water distribution system under Section 363 of the District Law.

#### 10. Resolution of Disputes

Should any dispute arise regarding this Agreement, the prevailing party shall be entitled to its reasonable attorney fees and costs, including costs of experts.

#### 11. Covenant to Run with the Land

As the operation, maintenance and repair of the described riparian irrigation system for the Project shall be used for Project works, the parties intend this Agreement to run with the land and to be binding upon all successors in interest to the parties without restriction, except as to term as written in the provisions for Length of Agreement (Paragraph 6).

#### 12. Default/Remedies of Default

In the event the District fails to perform or observe any other agreements, covenants or conditions of the Agreement, on the part of District to be performed, and such failure is not cured within thirty (30) days after the date of which Property Owner gives the District written notice of District's default, Property Owner may then elect in addition to any other remedies that may be available to Property Owner at law or in equity to terminate this Agreement upon thirty (30) days written notice unless within such thirty (30) days, such Event of Default has been cured.

#### 13. Notices

Any notice or other written communication required or permitted herein shall be in writing and may be delivered personally or by express delivery service, telegram, telephonic facsimile, or by United States mail, registered or certified, postage prepaid with return receipt requested, addressed to the party for whom intended as follows:

The Brant Family Trust dated June 4, 1998

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
Gary M. Brant, Trustee

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
Ingrid B. Brant, Trustee

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
David J. Stoldt, General Manager  
Monterey Peninsula Water Management District

Exhibits:

A: Parcel Map

B: Water Distribution System Permit Application Attachments

U:\Larry\Carnel River\Irrigation\Brant Well\Temp-well-use-agreement-SchulteSouth15July2014.docx

Exhibit A

## Exhibit B – Water Distribution System Permit Application Attachments

- Map with Assessor's Parcel Numbers, location of water facilities (e.g., wells) and parcels served;  
Complete – on file with MPWMD
- Monterey County Environmental Health Bureau Well Construction Permit (one for each well);  
Complete – on file with MPWMD
- State Dept. of Water Resources (DWR) Well Completion Report (one for each well);  
Complete – on file with MPWMD
- Monterey County Health Department certification of adequate quantity/quality (for drinking water);  
Brant Family Trust responsibility to submit
- MPWMD Well Registration form for each well (\$25 fee if new well or owner);  
Complete – on file with MPWMD
- MPWMD Well Meter Inspection Form signed by District staff for each well;  
Complete – on file with MPWMD
- Grant Deed or similar recorded property ownership documentation;  
Brant Family Trust responsibility to submit
- Water rights documentation, if applicable (e.g., Carmel Valley Alluvial or Seaside Basin wells);  
Brant Family Trust responsibility to submit (note: Brant Family Trust to reimburse the District for legal costs associated with a water rights review).
- Environmental review, if applicable (typically performed by City or County);  
MPWMD to be Lead Agency
- For Mobile WDS, authorizing letter from agency governing source of supply;  
N/A
- Additional documentation may be required for certain situations;  
Brant Family Trust responsibility to submit
- Initial application fee (check to "MPWMD"): \$1,200 (Level 1 and 2), or \$3,000 (Level 3). See separate handout on fees.  
Initial fee to be waived by MPWMD, except for certain expenses as described in the body of the Temporary Well Use Agreement

Monterey Peninsula Water Management District  
David J. Stoldt, General Manager  
5 Harris Court  
Monterey, CA 93940

September 4, 2014

Dear Mr. Stoldt,

I agree that we cannot waste another drop of water. I received your notice and was pleased to see your efforts at controlling water waste. Thank you. I noticed the recycle requirement for full service car washes and wondered if you knew about how little water is used by self-service car washes versus other car washes.

I have included two water reports regarding car washing. One details usage by each type of car wash and the other is regarding wastewater. The average "self-service" car wash uses 15.0 +/- 3 gpv, while in bay automatics (such as gas stations) used 42.9 +/- 26 gpv and full service conveyor washes use 34.0 +/- 15 gpv. So, the average self-service car wash uses LESS THAN HALF of the water used at other types of car washes.

I hope you will see the importance of self service car washes in your efforts to conserve of water as well as reducing pollutants being sent into Monterey Bay. Washing a car in a driveway is the worst scenario of all.

In the last few months I purchased the Monterey self-service car wash at 2236 Fremont Street. Over the next few months we will be tightening up the entire car wash with new equipment and significantly increasing the efficiency of water use and capture throughout. This will take a few months, so please be patient. If you have any questions, thoughts or concerns; please let me know.

Please stay vigilant regarding our precious water and the preservation of Monterey Bay.

Regards,



Mike Amaya  
King Klean Car Washes  
835 Sextant Court  
San Mateo, CA 94404  
650-703-0899

RECEIVED

SEP 10 2014

MPWMD





California American Water  
511 Forest Lodge Road, Suite 100  
Pacific Grove, CA 93950

[www.californiaamwater.com](http://www.californiaamwater.com)



Monterey Peninsula Water Management District  
5 Harris Court, Building G  
Monterey, CA 9394

[www.mpwmd.net](http://www.mpwmd.net)

## NOTIFICATION OF STATEWIDE DROUGHT EMERGENCY CONSERVATION MEASURES

Dear Valued Customer:

In response to California's devastating drought and state-mandated restrictions, California American Water has been ordered by the California Public Utilities Commission to notify its customers in Monterey County of the State Water Resources Control Board's (Board) restrictions and fines for violations of the Board's regulations. Although the Monterey Peninsula is one of the most conservation-minded areas in the country, even small improvements to our water use habits will save more water. Reducing water waste is one of the easiest ways to save water. Installing water-efficient plumbing fixtures is another simple way to save. California American Water, in partnership with the Monterey Peninsula Water Management District (MPWMD), is working to further reduce water use on the Monterey Peninsula.

The MPWMD is implementing the State Drought Response by increasing its local water waste enforcement. MPWMD has a water-waste hotline (831-658-5653) and an online form to report water-waste occurrences ([www.montereywaterinfo.org](http://www.montereywaterinfo.org)). MPWMD also has people in the field to help find and correct water waste. Reported instances of water waste will be followed up with a contact (usually by letter or telephone), and repeated incidences can result in fines of up to \$500<sup>1</sup>. Water waste includes a number of prohibited practices including:

### **All Water Users**

- The application of potable water to outdoor landscape in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.
- The use of a hose that dispenses potable water to wash a motor vehicle, except where the hose is fitted with a Positive Action Shut-Off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.
- The application of potable water to driveways or sidewalks.
- The use of potable water in a fountain or other decorative water features, except where the water is part of the recirculating system.
- Misrepresentation of the number of persons permanently residing on a property when requested by the water company to determine the appropriate water allotment (for rates) or a water ration.
- Failure to fix a leak in a reasonable period of time.
- Use of drinking water for washing buildings, structures, driveways, patios, parking lots, tennis courts, or other hard surfaced areas, except in cases where health or safety are at risk and the surface is cleaned with a Water Broom or other water-efficient device or method. Water should be used only when traditional brooms are not able to clean the surface in a satisfactory manner.
- Use of drinking water for pressure/power washing buildings and structures, except when preparing surfaces for paint or other necessary treatments.
- Irrigation after 9 a.m. and before 5 p.m.
- Watering outdoor plants on any day other than Saturdays and Wednesdays except for watering overseen by a professional gardener/landscaper who is available on the site. Outdoor watering shall

not occur more than twice per week, except for water-efficient, non-sprinkler irrigation managed by an operational Smart Controller.

- Failure to arrange for a Landscape Water Audit within 60 days of notification of a requirement to obtain an audit.
- Failure to complete a Landscape Water Audit within 60 days of a significant modification to an audited landscape.
- Charity car washes.
- Use of unmetered fire hydrant water by individuals other than for fire suppression or utility system maintenance purposes, except upon prior approval of the Monterey Peninsula Water Management District General Manager.
- Washing of livestock with a hose except with the use of a Positive Action Shut-Off Nozzle.

#### **Commercial Water-Waste Restrictions**

- Serving drinking water to any customer unless expressly requested, by a restaurant, hotel, café, cafeteria or other public place where food is sold, served or offered for sale.
- Failure to meet MPWMD Regulation XIV water efficiency requirements for an existing business after having been given a reasonable amount of time to comply.
- Washing commercial aircraft, cars, buses, boats, trailers or other commercial vehicles at any time, except at commercial or fleet vehicle or boat washing facilities operated at a fixed location where equipment using water is properly maintained to avoid wasteful use.
- Operation of a commercial full-service car wash without recycling at least 50 percent of the potable water used per cycle.
- Use of potable water for street cleaning.
- Transportation of water from the Monterey Peninsula Water Resource System without prior written authorization from the MPWMD.
- Unreasonable or excessive use of potable water for dust control or earth compaction without prior written approval of the Monterey Peninsula Water Management District General Manager where non-potable water or other alternatives are available or satisfactory.

#### **Free Items, Rebates and More**

California American Water and the MPWMD offer a number of water-saving devices at no charge. Customers can stop by either office during normal business hours and receive free showerheads, faucet aerators, hose nozzles, leak detectors and other items to reduce water use in the home or business. In addition, this partnership offers an array of water-saving rebates that should be available until the end of November 2014. Take advantage of a rebate of up to \$500 to replace your old clothes washer with a high water-efficiency model. There are also rebates for outdoor irrigation system improvements and for commercial food service retrofits.

California American Water and the MPWMD also sponsor local training on subjects such as laundry to landscape (graywater system), irrigation system management, and rainwater harvesting.

Visit [www.montereywaterinfo.org](http://www.montereywaterinfo.org) to learn more. Thank you for doing your part to make the Monterey Peninsula one of the most water-conscious areas in the United States.

Sincerely,



Eric Sabolsice, General Manager  
California American Water

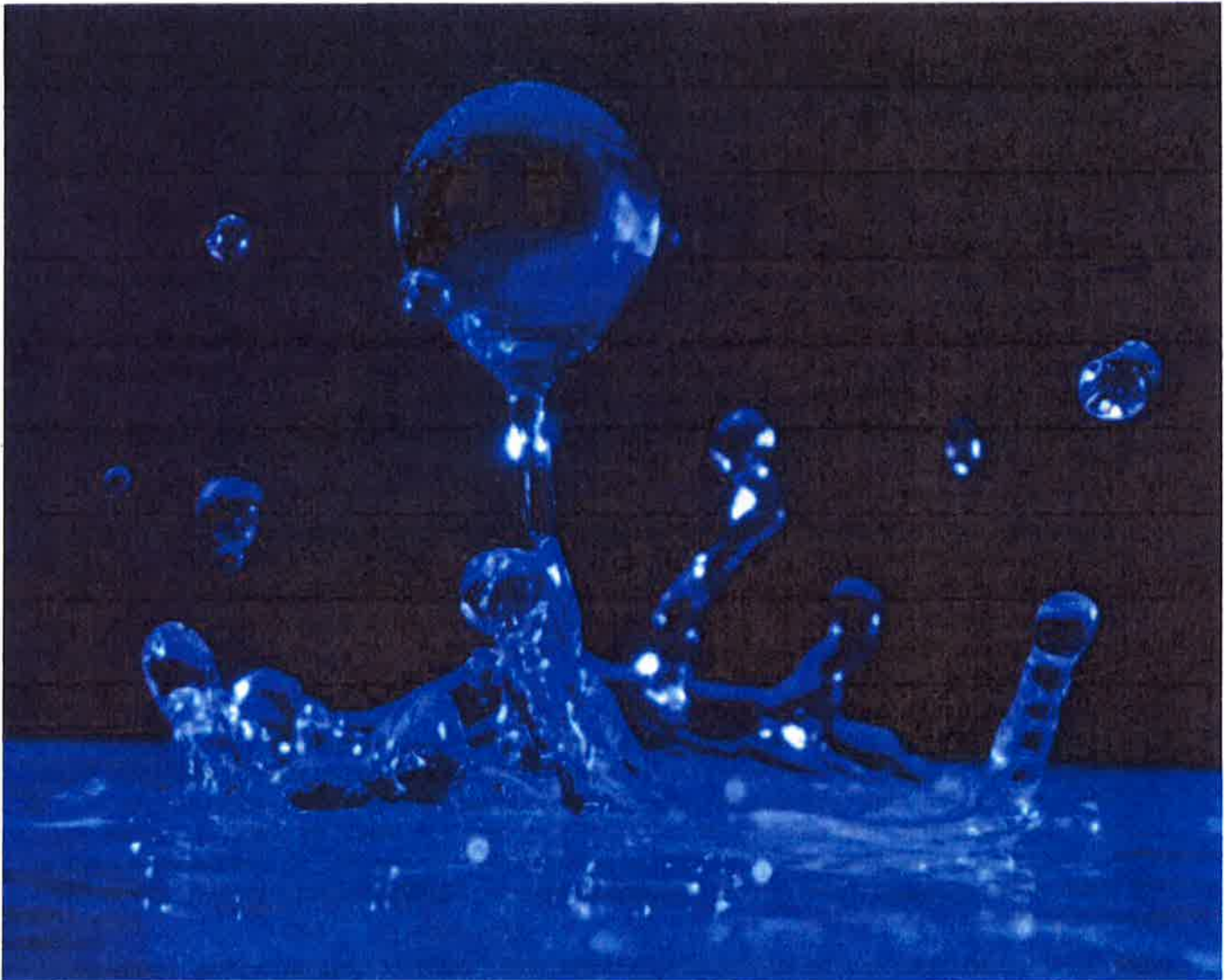


David J. Stoldt, General Manager  
Monterey Peninsula Water Management District

<sup>1</sup> Or higher for customers using over 1 million gallons per year or when MPWMD issues an Administrative Compliance Order or Cease & Desist Order

**Please don't waste another drop of water!**

---



**ENCLOSED**

**Residential Car Wash Water Monitoring Study - July 2009  
City of Federal Way Public Works Dept. Surface Water Management Division**

**Water use In The Professional Car Wash Industry - September 2002  
International Car Washing Association – Chris Brown, Water Conservation Consultant**

**RESIDENTIAL CAR WASHWATER  
MONITORING STUDY**

July 2009

**City of Federal Way  
Public Works Department  
Surface Water Management Division**

# **RESIDENTIAL CAR WASHWATER MONITORING STUDY**

**July 2009**



**Public Works Department  
Surface Water Management Division**

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# **RESIDENTIAL CAR WASHWATER MONITORING STUDY**

**Prepared by:**

**Dan Smith**  
Surface Water Quality Program Coordinator  
City of Federal Way, Washington  
Public Works Department  
Division of Surface Water Management

**Hollie Shilley**  
Surface Water Quality Technician  
City of Federal Way, Washington  
Public Works Department  
Division of Surface Water Management

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**APPROVALS**

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William Appleton, PE, Surface Water Manager  
Surface Water Management



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Dan Smith, Surface Water Quality Program Coordinator  
Surface Water Management



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Hollie Shilley, Surface Water Quality Technician  
Surface Water Management

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**CITATION**

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Smith, Daniel J., Shilley, Hollie. 2009. Residential Car Washwater Monitoring Study. City of Federal Way, Washington, Public Works, Surface Water Management

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**ABSTRACT**

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To better understand the nature of urban stormwater discharges to the City of Federal Way Municipal Separate Storm Sewer System (MS4), the Water Quality section of the Surface Water Management (SWM) Division of Public Works embarked on a small study to illustrate the links between car washing, stormwater, local surface waters, and Puget Sound. Findings from the study will be presented to the public as part of our on-going stormwater pollution prevention education campaign targeting residential activities.

The findings presented herein show that most wash water from residential car washing is a source of stormwater pollution. It also demonstrates that any single uncontrolled residential car wash activity might be inconsequential with respect to its contribution to the pollutant load being delivered to the MS4, however, when extrapolated over the entire City of Federal Way for a year, the pollutant loading becomes significant.

The following are several of the crucial pollutants detected and the calculated annual pollutant loading to the City's MS4:

- Petroleum hydrocarbon waste: gasoline, diesel, and motor oil (estimated 190 gallons of annual mass loading).
- Nutrients: phosphorous and nitrogen (estimated 400 pounds of annual mass loading).
- Ammonia (estimated 60 pounds of annual mass loading).
- Surfactants (estimated 2,200 pounds of annual mass loading)
- Solids (estimated 3,000 pounds of annual mass loading).

The results of this study support the findings of the Puget Sound Partnership 2008 Action Agenda declaring that pollution-related water quality problems in the freshwaters and marine waters of Puget Sound include excess nutrients and contamination by toxic chemicals draining from urban areas. The Action Agenda also points out that pollution entering Puget Sound's rivers, lakes, and marine waters does so through a variety of pathways, and that surface water runoff appears to be the primary transportation route, with the most concentrated loads coming from developed lands.

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## 1.0 INTRODUCTION

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Stormwater generated in Federal Way drains into Puget Sound. Fed by seasonal freshwater from the Olympic and Cascade Mountain watersheds, Puget Sound is a ninety-mile long saltwater estuary in rapidly growing Western Washington. This water body provides recreation for people, and is home to a diverse, but endangered, ecosystem.

In 2007 the Washington State Legislature created the Puget Sound Partnership (PSP), an effort undertaken to implement a strategic and bold plan to restore the health of this regionally important waterbody by 2020. Released at the end of 2008, the PSP issued an Action Agenda that spells out measurable goals for Puget Sound's recovery by demonstrating the complex connections between the land and water. With a good deal of alarm, the PSP emphasizes, in no uncertain terms, that urban stormwater runoff poses a major threat to Puget Sound's ecosystem.

Often society has been slow to recognize the link between individual behaviors and practices, and the detrimental impacts that they may have on our natural aquatic resources. One of these practices, residential car washing, may give rise to surface water quality impacts that can be felt well beyond the front yards and driveways of the communities where it occurs.

In some instances, car washing is carried out on lawns, in sideyards, or on graveled areas, which all allow for the infiltration of the wash water. However, in most cases, it is performed on impervious surfaces – that is, driveways or streets – where the washwater drains directly into the Municipal Separate Storm Sewer System (MS4).

To better understand the nature of urban stormwater discharges to the City of Federal Way Municipal Separate Storm Sewer System (MS4), the Water Quality section of the Surface Water Management (SWM) Division of Public Works embarked on a small study to illustrate the links between car washing, stormwater, local surface waters, and Puget Sound.

### 1.1 Regulatory Background

In 1999, the Environmental Protection Agency (EPA) issued the National Pollutant Discharge Elimination System (NPDES) stormwater Phase II program regulations (40 CFR Part 122). The ruling was a Federal mandate established to address discharges from small MS4s in an effort to reduce sources of stormwater pollution that impact the water quality of our natural water bodies.

EPA's primary role in the NPDES program was to develop the overall regulatory framework. Under the ruling, authorized states (including Washington) were permitted to tailor their stormwater discharge control programs so that water quality needs and objectives could be addressed through a fine-tuning and adjustment of the regulatory process at a state level. In early 2007, the State of Washington Department of Ecology (DOE) issued the Western Washington Phase II Municipal Stormwater Permit. Over 100 jurisdictions are subjected to this permit, including Federal Way.

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The Phase II rule requires that all affected municipalities implement a series of individualized programs designed to control non-stormwater discharges, including both a public education track and procedures to detect and eliminate stormwater pollutants (illicit discharges). With some exceptions, the EPA defines an illicit discharge as “any discharge to an MS4 that is not composed entirely of stormwater”.

Phase II jurisdictions are to “effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the MS4, and implement appropriate enforcement actions as needed”. The Western Washington Phase II Municipal Stormwater permit requires Federal Way to develop a regulatory mechanism that effectively prohibits non-stormwater, illegal discharges, and/or dumping into the MS4 to the maximum extent allowable under State and Federal law. An ordinance accomplishing this will go into effect for the City of Federal Way on August 16, 2009.

By definition, residential car washwater is a non-stormwater discharge, however, the EPA ruling sets it and other types of non-stormwater discharges (including water line flushing, landscape irrigation, de-chlorinated swimming pool discharges, etc.) apart. These discharges would only need to be included in the scope of an illicit discharge detection and elimination (IDDE) program if they were identified as *significant contributors of pollutants* to the MS4. In these cases, specific stormwater controls would need to be implemented. If deemed to be ineffective, an affected municipality would have the authority to prohibit the discharge completely.

## 1.2 Recent Permit Clarifications

In September of 2008, the Department of Ecology began recommending that permitted municipalities implement a public education approach when attempting to obtain compliance with residential car wash discharges. These recommendations were included in a number of DOE-issued correspondences, including news releases, a fact sheet, and a guidance document to cities and counties clarifying the recommended response actions. DOE recommendations include a learning phase period to allow for behavior change, letting each permitted entity to decide which group of actions would be effective enough to eliminate “significant” prohibited discharges (Howard, 2009).

## 2.0 STUDY DESIGN

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Attempting to sample and quantify stormwater contaminants generated by common residential activities can be difficult. These elusive constituents, many of which are which are invisible to the naked eye, include bacterial loadings produced by poor pet waste management practices, fertilizers, herbicides and or pesticides dissolved in surface runoff from lawns. Depending on the frequency and volume of stormwater flows, concentrations of these pollutants can be highly variable. These type of contaminant loadings are classified as non-point discharges.

Conversely, car washwater streaming into neighborhood stormwater structures presents a more simplified sampling opportunity. It offers a much easier target to examine: the flow stream is often foamy and visible; it can be readily captured as it drops into a catch basin; the concentration of contaminants is relatively consistent; the discharges occur predictably (on nice

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days); and the transport of pollutants generated by the activity is not dependant upon fluctuating stormwater runoff. Accordingly, discrete flows of residential car washwater are point source discharges to the MS4.

Sampling multiple individual driveway or street locations around the city in an effort to examine the issue for this study was found to be difficult with respect to timing, coordination, and potentially uneasy interactions with the public. Therefore, washwater grab samples were instead collected at five distinct weekend car wash fund raising events (see Section 4.1), which was considered to be representative of pollutants typically generated by individual car washing activities (See Section 4.2).

### **3.0 GOALS AND OBJECTIVES**

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The following were the goals and objectives of the Federal Way Residential Car Washwater Monitoring Study:

- Collect and analyze representative residential car washwater samples in accordance with procedures outlined in Standard Methods for the Examination of Water and Wastewater, 20th Edition.
- Estimate the annual mass loading of select individual pollutants to the MS4.

### **4.0 VEHICLE WASHWATER TESTING METHODS**

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#### **4.1 Location of Sampling**

The study utilized car washwater from five distinct weekend fund raising functions in the City of Federal Way during the summers of 2007 and 2008. The events were typical, and included groups washing cars and trucks for donations at settings such as commercial business locations and church parking lots. No significant precipitation events occurred before or during any event.

Due to the large number of vehicles washed, and the volume of washwater generated, event organizers were required to install a car wash kit to divert the flow away from the stormwater system. The kit, supplied by the City at no cost, includes power cords, hoses, a small submersible pump, and a plastic insert which fits into catch basin structures that receive the soapy flow.

By means of this set-up (Figure 1), discrete grab samples of the washwater were easily retrieved from the car wash kit discharge hose during the mid-point of each scheduled event. All water flowing across the pavement in the car washing area was collected within the catch basin insert. Collected washwater was delivered as effluent through a hose to either a sanitary clean out, sanitary sewer manhole, or pervious area at the site.

---

## 4.2 List of Parameters

It is known that washwater generated from car washing may contain many types of contaminants including high amounts of petroleum hydrocarbons, heavy metals and nutrients. In addition, data provided by the International Carwash Association (ICA) representing wastewater discharged to publicly owned treatment works from various commercial facilities indicates a similar inventory of pollutants generated by car washing activity (ICA, 2002).

Based upon this information, a list of constituents to be analyzed for was developed. The constituents tested are shown in Table 1. The following presents a brief description of the general pollutant categories that were selected to be tested:

- Petroleum hydrocarbons (gasoline, diesel fuel, motor oil, fluids and lubricants) from automobile engines, leaks, and fuel combustion processes.
- Heavy metals resulting from normal wear of auto brake linings (copper), tires, exhaust, and fluid leaks.
- Phosphorous- and nitrogen-containing detergents contained in wash water from cleaning vehicles.
- Surfactants in detergents and cleaning formulations (both synthetic and organic agents) that lower the surface tension of water, allowing dirt or grease to be washed off of cars.

## 4.3 Sample Collection, Containers, Preservation, and Storage

Laboratory guidance was used to determine the number and type of sample containers used, the correct sample volume, and the proper sample preservative required for each parameter analyzed. Before each sampling event, the following supplies were prepared:

- Sampling bottles, labels, and chain-of-custody forms from the laboratory.
- Powder-free disposable latex gloves.
- Coolers and ice.
- Field notebook to keep records concerning sampling.

The following describes the sampling method:

- Samples of car washwater were collected directly into the sample bottles without transferring into another container to prevent unnecessary contamination.
- Bottles were filled to within two inches of the top to allow for thermal expansion (unless sample analysis requires that no air space be left)

- 
- The samples were placed immediately into a cooler with ice (and then refrigerator) to maintain a 4°C environment until delivery to the laboratory. Samples were delivered within the shortest holding time of the water parameter need to be analyzed.
  - No replicates or field blanks were collected.

#### **4.4 Chain of Custody Procedures**

The chain-of-custody (COC) refers to the documented account of changes in possession that occur for a particular sample or set of samples. The COC record allows an accurate step-by-step recreation of the sampling path, from origin through analysis. With the COC documentation, there exists confidence that samples have not been tampered with and that they are representative of the car wash water collected from that particular site. Information recorded on the COC includes:

- Name of the persons collecting the sample
- Sample ID number
- Date and time of the sample collection
- Location of the sample collection
- Names and signature of all persons handling the samples in the field and in the laboratory

#### **4.5 Field Records**

The following sampling information was submitted on the COC to the laboratory ensuring proper sample handling and analysis by the laboratory:

- A unique identification number assigned to all samples.
- The date and time of sample collection
- The source of the sample.
- The name of sampling personnel.
- Specific analysis required.

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## 5.0 SAMPLE ANALYSIS

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### 5.1 Methods

Analytical methods followed the procedures outlined in Standard Methods for the Examination of Water and Wastewater, 20th Edition. Table 1 describes each parameter analyzed, the analytical method used, and the proper sample preservatives required.

Test America Laboratories prepared written narratives assessing the quality of the data collected for this project. These reviews include a description of analytical methods and assessments of holding times, initial and continuing calibration and degradation checks, method blanks, surrogate recoveries, matrix spike recoveries, laboratory control samples, and laboratory duplicates. No significant problems were encountered in the conventional water quality analyses.

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## 6.0 PREDICTED CONTAMINANT LOADING

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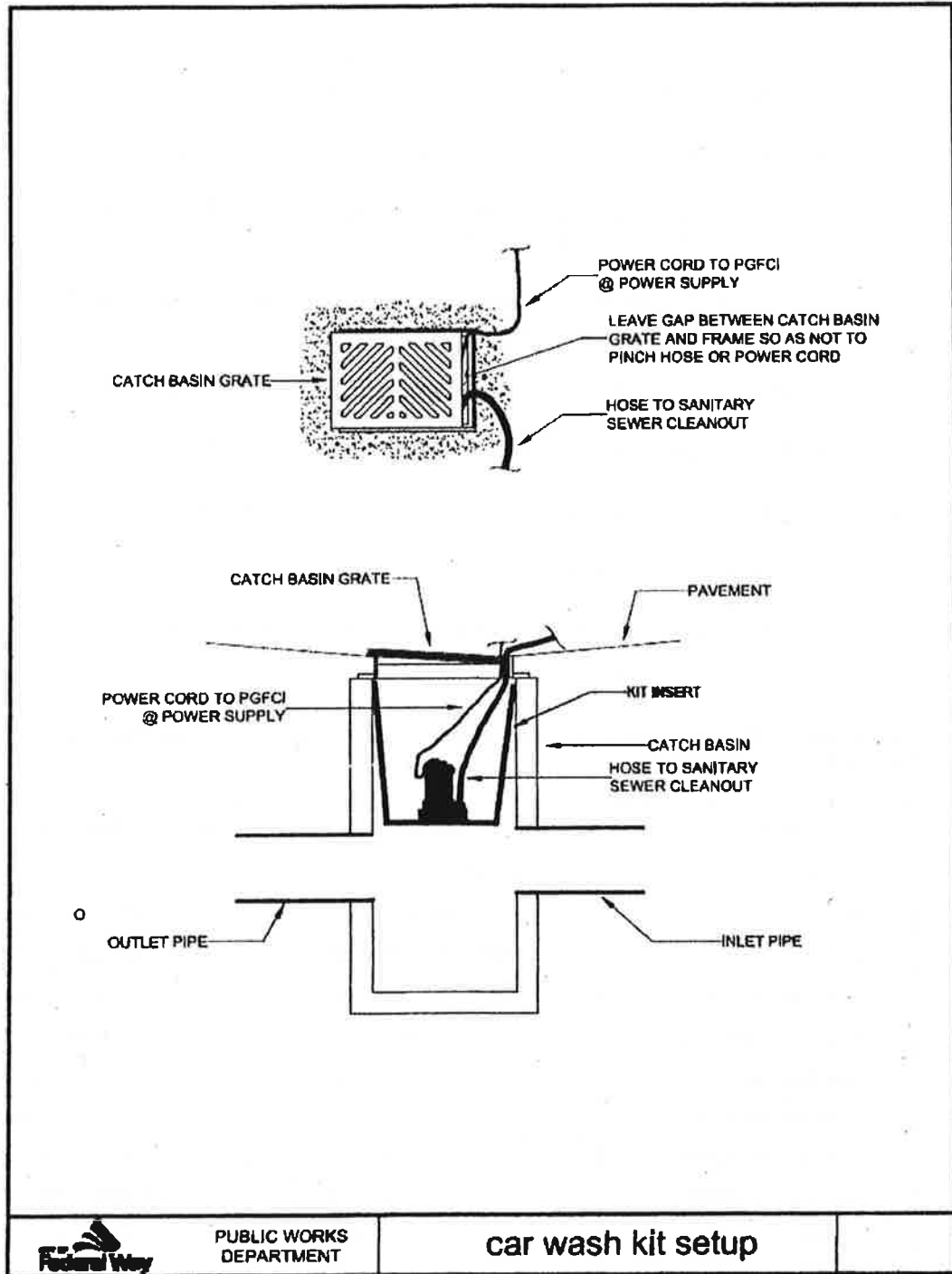
The following series of steps were conducted to estimate annual pollutant loadings to the MS4:

1. An average concentration value was calculated for each parameter tested during the five individual sampling events.
2. The average values were converted into an appropriate volume or mass quantity (either gallons or pounds).
3. Total annual MS4 pollutant loadings were calculated based upon the amount of residential car washing estimated to be carried out in Federal Way.

### 6.1 Laboratory Results

Table 2 provides a summary of laboratory results for each of the five separate sampling events and the calculated average concentration for each parameter.

Figure 1. Car wash klt set up diagram





## 6.2 Conversion Factors

The final study figures hinged upon the following key referenced statistics and conversion factors:

- There are an estimated 62,000 passenger cars and trucks registered in Federal Way (WDOL, 2009).
- Thirty-eight percent (38%) of car owners wash their cars in the driveway (ICA, 2005).
- The average frequency of residential car washing in the Puget Sound region is once every two weeks (Hardwick, 1997).
- Twenty (20) gallons is the average amount of water used to wash a vehicle (based upon field observations and simulations using a low-flow nozzle).
- Assumed that 80% of driveway car washing effluent drains to MS4.
- The average weight of used motor oil is 7.0 lbs/gal, (USEPA, 1993).
- The average weight of gasoline is 6.1 lbs/gal, (USDOE, 2009).
- The average weight of #2 diesel fuel is 7.0 lbs/gal, (USDOE, 2009).
- The weight of ammonia is 5.15 lbs/gal at 60°F, (USDOL, 2009).

**Table 1. Analytical methodology and preservation methods, residential car washing in Federal Way, WA, 2007-2008**

Parameter	Analytical Methodology	Container/Preservative
Gasoline	NWTPH-Gx, SW846 5030B	40 ml VOA vials (3), HCl
Motor Oil	NWTPH-Dx, SW846 3510C	1 liter amber glass, HCl
#2 Diesel	NWTPH-Dx, SW846 3510C	1 liter amber glass, HCl
Surfactants (MBAS)	SM5540 C	250 ml poly, unpreserved
Total recoverable metals	6010B ICP (3005A)	250 ml poly, HNO <sub>3</sub>
Dissolved metals	6010B ICP	250 ml poly, HNO <sub>3</sub>
Total dissolved solids	EPA 160.1	1 liter poly, unpreserved
Total suspended solids	EPA 160.2	1 liter poly, unpreserved
Oil and grease (HEM)	EPA 1664A	1 liter amber glass, H <sub>2</sub> SO <sub>4</sub>
Ammonia	EPA 350.1	250 ml poly, H <sub>2</sub> SO <sub>4</sub>
Nitrate + Nitrite	EPA 300.0	250 ml poly, H <sub>2</sub> SO <sub>4</sub>
Total Phosphorous	EPA 365.1	250 ml poly, H <sub>2</sub> SO <sub>4</sub>

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### 6.3 Final Results

By converting sample concentration to mass or volume, hypothetical annual pollutant loading estimates to the MS4 could be calculated. Significant findings are summarized in Table 3 that lists select contaminants tested and their average annual estimated mass loading to the City of Federal Way MS4 from residential car washing.

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## 7.0 DISCUSSION OF STUDY RESULTS

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The following is a brief discussion concerning several of the crucial pollutants detected, the calculated annual pollutant loading, impacts to the City's MS4, potential effects on downstream water quality:

*Petroleum hydrocarbon waste: gasoline, diesel, and motor oil (estimated 190 gallons of annual mass loading).* Compounds in petroleum hydrocarbons are highly toxic, and in the surface water environment, they can cause harm to wildlife through direct physical contact, contamination by ingestion, and the destruction of food sources and habitats.

Bottom-dwelling or bottom-feeding aquatic organisms may ingest petroleum contaminants and transmit them up through the food chain until they accumulate in dangerous concentrations in fish. Hydrocarbons also harm fish directly, and damaged fish eggs may not develop properly (EPA, 2003). Additionally, oil can be particularly problematic because a single spilled cup can contaminate the surface area of a waterbody the size of a football field (EPA, 2003).

*Dissolved copper (estimated 14 pounds of annual mass loading).* Exposure to dissolved copper may be sufficient to impair the sensory biology (olfactory system) of coho salmon (*Oncorhynchus kisutch*), listed as an ESA Species of Concern. Coho and other salmonids rely on their sense of smell for critical behaviors such as homing, foraging, and predator avoidance. Sub-lethal impacts on olfactory function may reduce the chances of survival or reproduction of individual salmon and, therefore, are a concern for the survival of salmon populations within the Pacific Northwest (Baldwin, et al, 2003). Dissolved copper is also toxic to phytoplankton, the base of the aquatic food chain (National Research Council, 2008).

*Nutrients: phosphorous and nitrogen (estimated 400 pounds of annual mass loading).* An increase in nutrient loading to a surface water body leads to excessive plant growth and decay. This creates low dissolved oxygen levels, changes in animal populations, and an overall degradation of water quality and aquatic habitat. This process is known as eutrophication. In the 2008 Water Quality Assessment, DOE found numerous locations in South Puget Sound impaired due to a lack of dissolved oxygen caused by excess sources of nitrogen from human-related pollution.

Table 2. Analytical summary and concentration averages for select contaminants from residential car washing in Federal Way, WA, 2007-2008

Parameter	Date	Concentration	Date	Concentration	Date	Concentration	Date	Concentration	Average Concentration
Gasoline (mg/L)	6/23/2007	0.12	5/17/2008	0.071	6/28/2008	0.12	7/12/2008	0.062	0.091
Motor Oil (mg/L)		8.2		2.8		12		9.4	8.5
#2 Diesel (mg/L)		5.8		3.2		13		3.9	5.9
Total Metals (mg/L)									
Arsenic	Non Detect		Non Detect		Non Detect		Non Detect		Non Detect
Cadmium	Non Detect		Non Detect		Non Detect		Non Detect		Non Detect
Chromium	Non Detect		Non Detect	0.025	0.025	0.030	0.030	0.030	0.028
Copper	0.83		0.15		0.71		0.59		0.532
Lead	0.054			0.034		0.061		0.056	0.051
Nickel	0.021			0.056		0.19		ND	0.089
Zinc	0.74		0.14		0.62		0.57		0.502
Dissolved Metals (mg/L)									
Arsenic	Non Detect		Non Detect		Non Detect		Non Detect		Non Detect
Cadmium	Non Detect		Non Detect		Non Detect		Non Detect		Non Detect
Chromium	Non Detect		Non Detect		Non Detect		Non Detect		Non Detect
Copper	0.21		0.11		0.23		0.16		0.158
Lead	Non Detect		Non Detect		Non Detect		Non Detect		Non Detect
Nickel	Non Detect		Non Detect		0.027		0.023		0.025
Zinc	0.32		0.092		0.22		0.24		0.206
Nitrate + Nitrite (mg/L)	Non Detect		0.96		0.77		0.73		0.82
pH (Ph)	6.09		7.01		6.5		7.16		6.75
Hardness (mg/L)	45		95		75		75		65
Total Dissolved Solids (mg/L)	210		300		180		230		214
Total Suspended Solids (mg/L)	82		Non Detect		280		230		198
Oil & Grease (mg/L)	21				45		11		21.5
Turbidity (NTU)	180		27		270		220		159
Total Phosphorus (mg/L)	0.75		0.73		5.8		6.1		3.94
Surfactants MBAS (mg/L)	30		12		35		40		27
Ammonia (mg/L)			0.61		0.65		0.97		0.74

**Table 3. Select contaminant annual pollutant concentrations and estimated annual pollutant loading from residential car washing in Federal Way, WA, 2007-2008**

Parameter	Analytical Methodology	Estimated annual mass pollutant discharge
Fuel (Gasoline, #2 Diesel)	NWTPH-Gx, SW846 5030B, NWTPH-Dx, SW846 3510C	492 lbs (70 gals)
Motor Oil	NWTPH-Dx, SW846 3510C	695 lbs (120 gals)
Surfactants (MBAS)	SM5540 C	2,200 lbs
Chromium, total recoverable	6010B ICP (3005A)	2 lbs
Copper, total recoverable	6010B ICP (3005A)	44 lbs
Lead, total recoverable	6010B ICP (3005A)	4 lbs
Nickel, total recoverable	6010B ICP (3005A)	7 lbs
Zinc, total recoverable	6010B ICP (3005A)	41 lbs
Copper, dissolved	6010B ICP	14 lbs
Total dissolved solids	EPA 160.1	17,500 lbs
Total suspended solids	EPA 160.2	16,200 lbs
Oil and grease (HEM)	EPA 1664A	1,400 lbs
Ammonia	EPA 350.1	60 lbs
Nitrate-Nitrite	EPA 300.0	67 lbs
Phosphorous	EPA 365.1	320 lbs

Nutrient availability also impacts the formation of hazardous algal blooms (HABs) which can produce high concentrations of nerve or liver toxins in the water column at levels that pose human health concerns (WDOE, 2009). HABs in Washington ponds, lakes, and reservoirs (including Federal Way) have been documented at an increasing rate over the past 25 years (WDOH, 2008).

*Ammonia (estimated 60 pounds of annual mass loading).* Forms of nitrogen (ammonium), in combination with pH and temperature variations, can be toxic to fish. When this toxic combination occurs, large amounts of oxygen in the water is consumed, subsequently stressing or killing fish and other aquatic organisms (King County, 2009).

*Surfactants (estimated 2,200 pounds of annual mass loading).* In surface water environments, surfactants are acutely toxic to aquatic life, stripping fish gills of natural oils, thereby interrupting the normal transfer of oxygen.

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*Solids (estimated 3,000 pounds of annual mass loading).* Sediment, the most common pollutant in stormwater runoff by volume and weight, makes streams and lakes less suitable for recreation, fish life, and plant growth. Sediment is of particular concern in fish-bearing streams where it can smother trout and salmon eggs, destroy habitat for insects (a food source for fish), and cover prime spawning areas. Uncontrolled sediment can also clog storm drains, leading to increased private and public maintenance costs and flooding problems (King County, 2009).

## 8.0 CONCLUSION

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The purpose of this study was to quantify the pollutant loading to the MS4 from residential car washing activities in areas upstream of in-flow treatment structures such as catch basin sumps, oil/water separators, ditches and retention/detention ponds.

While many of the known contaminants in car wash water were tested for, there are many other chemicals that were not. Some of these compounds include degreasers, metal brighteners, waxes and other potentially toxic components, and are more extensively addressed by recent studies investigating the overall aquatic toxicity of car wash effluent and synthetic detergents (Abel, 2006) (Brasino, et al, 2007).

Given both the nature and concentration of the pollutants found in the car washwater tested, it is apparent that significant quantities of stormwater contaminants are generated annually from residential car washing activity in Federal Way. Stormwater carries these pollutants – soapy water and all – to storm drains in urban areas, which then flow to surface waters with little or no water quality treatment (WDOE, 2009). This study demonstrates that while any single residential car wash might be considered inconsequential with respect to its contribution to the pollutant load being delivered to the MS4, however, when extrapolated over the entire City of Federal Way for a year, the pollutant loadings becomes more significant.

The City of Federal Way recognizes the challenges faced by the average homeowner as they struggle to implement car wash stormwater pollution prevention best management practices in their own driveway or neighborhood street. Solving these challenges becomes more urgent when considering the population growth trends developed for Washington's ten central Puget Sound counties. Currently, there are approximately 4.2 million people residing here, but the figure is expected to swell 1.3 million more by 2020 (WSOFM, 2009). These census predictions show us how powerful and effective incremental behavioral changes by people can be, and how small changes – when they benefit the environment – can translate into larger and more geographically significant water quality improvements.

Even though professional car washing facilities employ water treatment systems, and in many cases recycle the wastewater, surveys conducted by the International Carwash Industry from 1999 to 2008 indicate that the majority of home washers consistently feel that residential car washing is better for the environment than commercial car washes (ICA, 2008). From this information, it appears that more effective public education efforts will be needed to affect

sufficient behavior changes to reduce prohibited discharges caused by residential car washing activity.

Other survey data indicates that people will act more environmentally responsible as more accurate information is attained (NEETF, 2005). The City of Federal Way's public education program continues to embrace this concept, and will follow the DOE lead in utilizing the results of this study to craft more meaningful, effective, and accurate educational tools that describe the overall magnitude of stormwater pollution created by all home-based activities, including residential car washing.

For the average resident, we hope that this study will bring to view the amount of car washing contamination produced in their own community, causing them to be concerned by the prospects of pollutant loadings to our local salmon streams and Puget Sound when the sum of discharges from the entire Western Washington region are considered.

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**WATER USE IN  
THE PROFESSIONAL  
CAR WASH INDUSTRY**

*A Report for the International Car Wash Association*





# WATER USE IN THE PROFESSIONAL CAR WASH INDUSTRY

A Report for the International Carwash Association



**International  
Carwash Association**

*Serving the Professional Car Care Industry*

**Written by  
Chris Brown, Water Conservation Consultant**

**Published by  
International Carwash Association, Inc.**

**Published September 2002  
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## **Executive Summary**

The International Carwash Association has dedicated much of its effort to evaluating the impact of our industry on the environment. To better educate individuals on the influence of professional car washing, we have conducted a series of studies as part of our strategic plan to provide industry leadership.

In an effort to clarify water consumption and water conservation measures in professional car washes, the International Carwash Association commissioned a study of techniques used to conserve and reclaim water in the car wash industry and to define those techniques in a standardized manner. In 1999, the "Water Conservation in the Professional Car Wash Industry" report was published. It described the water use and conservation techniques for self-service, in-bay automatic, and conveyor car washes. The results of that examination were designed to advance the discussion of water usage, conservation and reclaim in the professional car wash industry.

This year the International Carwash Association has completed a two-year study that is designed to assess both water usage including the impact of evaporation and carryout, and wastewater quality including solid waste. The principal objective of this study is to determine the volume difference between fresh water consumed and the wastewater discharged while quantifying the average water consumption per vehicle by professional car washes.

Data collected from in-bay automatic car washes, self-service car washes and conveyor car washes in three different climatic locations were chosen to determine if regional differences in climate had a significant impact on water use or water losses due to differences in evaporation and carryout.

It is imperative that our businesses take proactive measures in both quantity and quality of water usage. Water regulators can use the data to determine relative water savings that can be successfully implemented by commercial car washes utilizing water reclaim systems. This data also can assist in calculations for sewage rates based upon a percentage of fresh water consumed.

This study is made available to all of those in our industry who can benefit from its conclusions. The International Carwash Association is an 'industry driven, membership organization' whose goals include providing for the continued success of all participants in the car care community. If you have any questions about the contents of this report, please contact the International Carwash Association via the Website, [www.carcarecentral.com](http://www.carcarecentral.com).

## RESULTS AND DISCUSSION

The results of the three-region study show clear differences with respect to the amount of water consumed per vehicle, and the water lost to evaporation and carryout by car wash type. Table 2 shows average values for freshwater consumption and evaporation and carryout for the three types of professional car washes. The results and discussion begin with a comparison of water consumption and evaporation and carryout losses by car wash type. Regional comparisons and then differences within each region were also examined. A discussion of the water savings obtained by those car washes, which installed reclaim systems, follows along with the potential for additional water conservation and financial benefits.

### Consumption

In all three regions the in-bay automatic car washes consumed more fresh water per average car wash at 43.3 gallons per vehicle (gpv). Phoenix showed the highest water use per vehicle wash in all categories except for self-serve. In part, that was due to the lack of car washes with reclaim systems in the Phoenix sample. The water savings and overall water use by carwashes with reclaim systems will be discussed in a subsequent section. One of the Phoenix sites, P11, had unusually high water use per vehicle at 111.5 gpv. No visible leaks were found, and the owner/operator had made modifications to the car wash design that probably increased the gpv of the site. Orlando's low gpv average is 47.9 gpv below Phoenix and was likely the result of all of the Orlando In-Bay sites using reclaim.

	Gallons per Vehicle			Evaporation & Carryout (%)		
	O	B	P	O	B	P
<b>Self-Serve</b>	16.0	15.2	12.3	22.9	33.2	19.8
<b>In-Bay</b>	24.6	40.0	72.5	29.8	28.6	32.8
<b>Conveyor</b>	34.3	26.7	43.8	15.1	16.1	16.7
O = Orlando; B = Boston; P = Phoenix						

Average values for fresh water consumption across all car wash types in Boston and Orlando

were  $27.2 \pm 12$  gpv and  $24.5 \pm 11$  gpv respectively. While average water consumption for the nine sites appears significantly higher in Phoenix at  $42.5 \pm 32$  gpv. The greater variability in the water consumption found in Phoenix sites provided overlap in the water use data and prevented statistical separation of the three regions ( $n = 32$ ,  $p = 0.19$ ). Evaporation and Carryout values were more closely clustered with the range of  $25.3 \pm 17$  percent in Boston to  $23.1 \pm 14$  percent in Phoenix ( $n=29$ ,  $p = 0.95$ ). Orlando sites averaged  $23.3 \pm 22$  percent evaporation and carryout losses. Regional climate differences did not appear to be a principle factor in water use or loss in this study.

It is worth noting the large variation in the sample, represented by the standard deviations in the samples that were calculated. It may be that increasing sample sizes will increase the statistical confidence in the mean values reported for each of the car wash types and locations. However, since car wash equipment varies by manufacturer, maintenance schedules and operator preferences, the observed variation may continue to be quite high.

\* Type of car wash equipment used was the most significant factor in differences in water consumption analyzed for this report. Self-serves were the lowest fresh water users at  $15.0 \pm 3$  gpv, while In Bay automatics used the greatest amount of fresh water at  $42.9 \pm 26$  gpv. Conveyors were closer to the In-Bay automatics at  $34.0 \pm 15$  gpv. The probability of these differences being random was less than one percent.

The customer can purchase most In-Bay automatic washes without leaving their vehicle. The customer chooses their wash option and pays. The equipment is provided by the manufacturer and is designed to run optimally at certain speeds and pressure settings. The owner/operator may make adjustments to water pressure, and nozzle size, but of the three types, changes that affect water consumption rates are most constrained by the equipment design.

Conveyor car washes give owner/operators greater flexibility in choosing the pressure settings and nozzles sizes for each cycle of the car wash. The speed at which the conveyor moves cars through the tunnel can also be adjusted. Minor adjustments may lead to large changes in water consumption per individual wash. ~~Water use by arches or fixtures with spray nozzles may be~~ adjusted by changing nozzle sizes or adjusting pressures. Cloth equipment, or "mitts" need less water once they are completely wet and the car wash has been running for a period of time. These

were  $27.2 \pm 12$  gpv and  $24.5 \pm 11$  gpv respectively. While average water consumption for the nine sites appears significantly higher in Phoenix at  $42.5 \pm 32$  gpv. The greater variability in the water consumption found in Phoenix sites provided overlap in the water use data and prevented statistical separation of the three regions ( $n = 32$ ,  $p = 0.19$ ). Evaporation and Carryout values were more closely clustered with the range of  $25.3 \pm 17$  percent in Boston to  $23.1 \pm 14$  percent in Phoenix ( $n=29$ ,  $p = 0.95$ ). Orlando sites averaged  $23.3 \pm 22$  percent evaporation and carryout losses. Regional climate differences did not appear to be a principle factor in water use or loss in this study.

## **CONCLUSIONS:**

This study brought to light a number of facts about the professional car wash industry, water use and losses to evaporation and carryout through the use of field data. Previous studies have cited manufacturers estimates and anecdotal evidence for water use by car wash equipment. This study is the first multi-regional study based completely upon field data. As expected, field data showed variation, but confirmed that the manufacturers' estimates cited in earlier studies were within the bound of values found in the field.

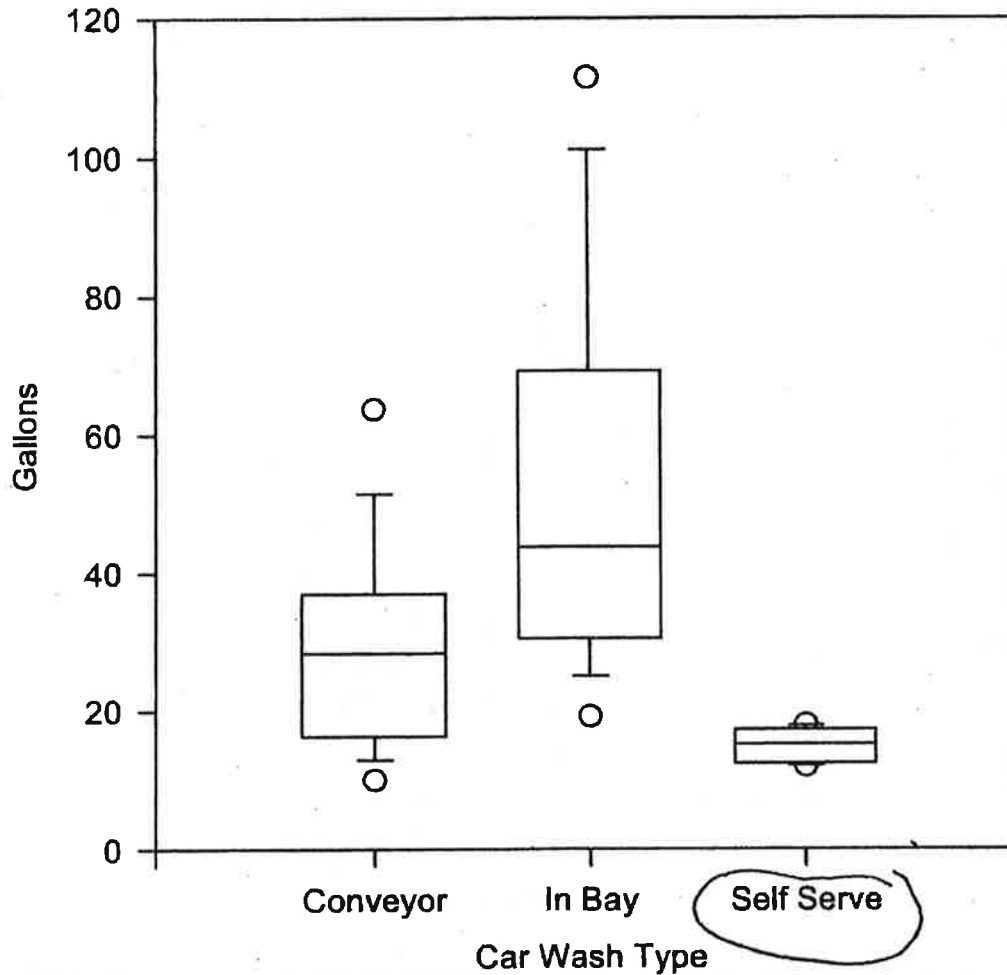
Audit techniques which focus on water consumption by individual cars washed appeared to provide more reliable information than those focused on water consumption over a period of time or water consumption by individual components within the wash. The design of some In-Bay and Conveyor equipment with spray nozzles mounted on rapidly moving arms made the collection of data on individual components difficult if not impossible in several circumstances.

Regional differences in water consumption do not appear significant based upon climate. This indicates that the water losses due to carryout appear to be a greater part of the total losses due to evaporation and carryout.

Evaporation and carryout combined appeared to be consistent across regional boundaries and differences and the mean value of the total sample was  $24.0 \pm 17.4\%$ . Larger sample sizes may provide for statistical separation in water use by region, but the significant variability in the sample also indicates that individual difference in car wash equipment design, operation and maintenance are likely to be more important than differences in climate.

Water conservation can be promoted by encouraging the use of reclaim and by educating owner/operators to the savings that can be obtained through adjustment and maintenance of equipment. Incentive programs by local utilities facing longer term water shortages may help car wash operators make the investment in reclaim equipment. Recognition of water conserving car washes through certification program like those in Austin and San Antonio, Texas and the newly framed statewide program in Florida, can help water planning agencies and utilities to gain year-round savings in partnership with professional car wash operators.

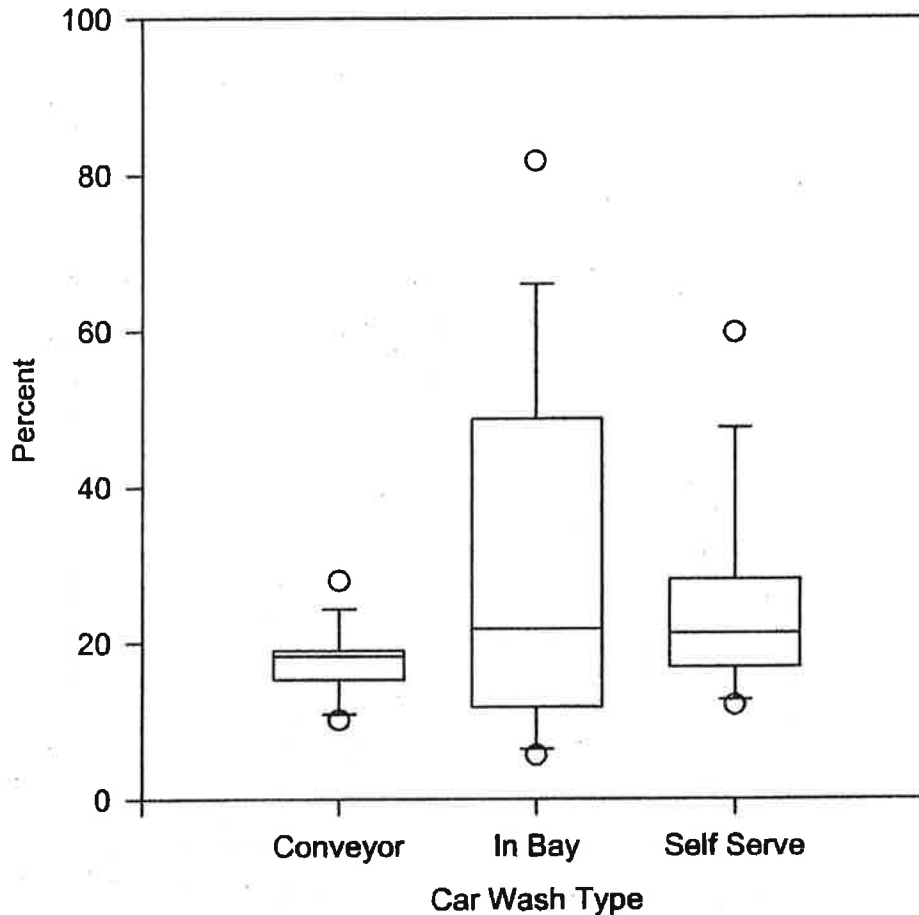
## Water Consumption by Type of Carwash (gpv)



The Boxplots of water consumption data shown above show the center point of each data set, as the midline represents. The relative variability of the data can be seen by the size of the box which shows the most reasonable range of acceptable estimates for the true mean value. The outer fences show the furthest data points from the center, which could still be considered reasonable estimates of values. The circles represent outliers, which suggests that values lower than 15 gpv or higher than 60 gpv are not reasonable to expect in conveyor car washes, and values of less than 20 gpv or higher than 102 gpv are not reasonable in In-bays. The self-service data was so tightly bunched around the 15 gpv mean that it has neither fences nor outliers in the dataset.

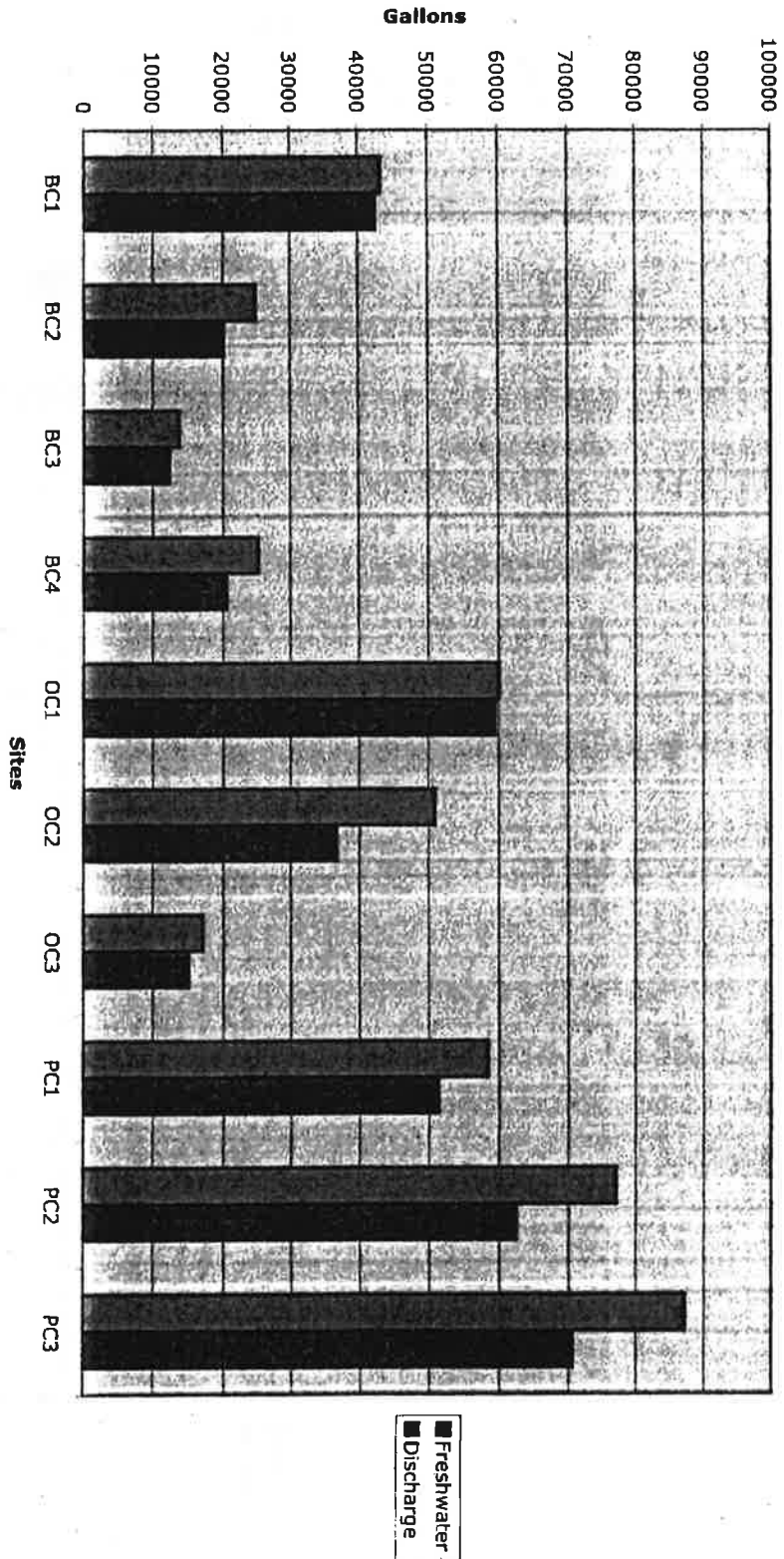


### Evaporation and Carryout by Carwash Type (%)

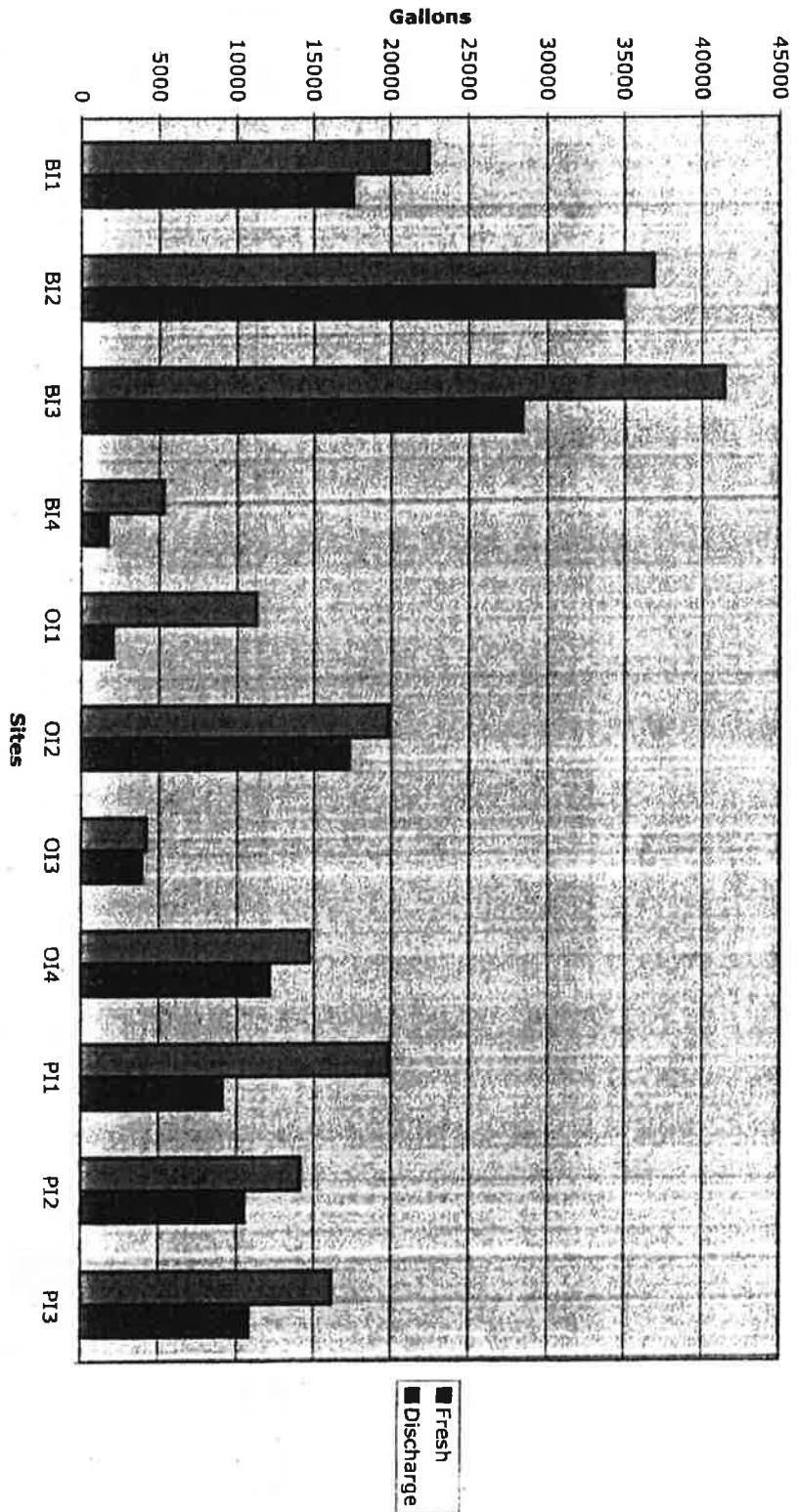


This Boxplot shows the mid points and variation in evaporation and carryout data. As mentioned earlier the median values of all three types of car washes are very similar. There was greater variation in the In-Bay and Self-serve datasets, than in the conveyors. The data suggests that values above 80% for In-Bays and 60% for Self serves are outliers. Reasonable estimates fall below 50% and above 15 % for in-bays, with reasonable estimates being much more closely grouped around 20 to 25% for conveyors and Self-serves. The lower circles on the plots for all three wash types and the upper circle on the conveyor are probably not outliers since they are so close to median values.

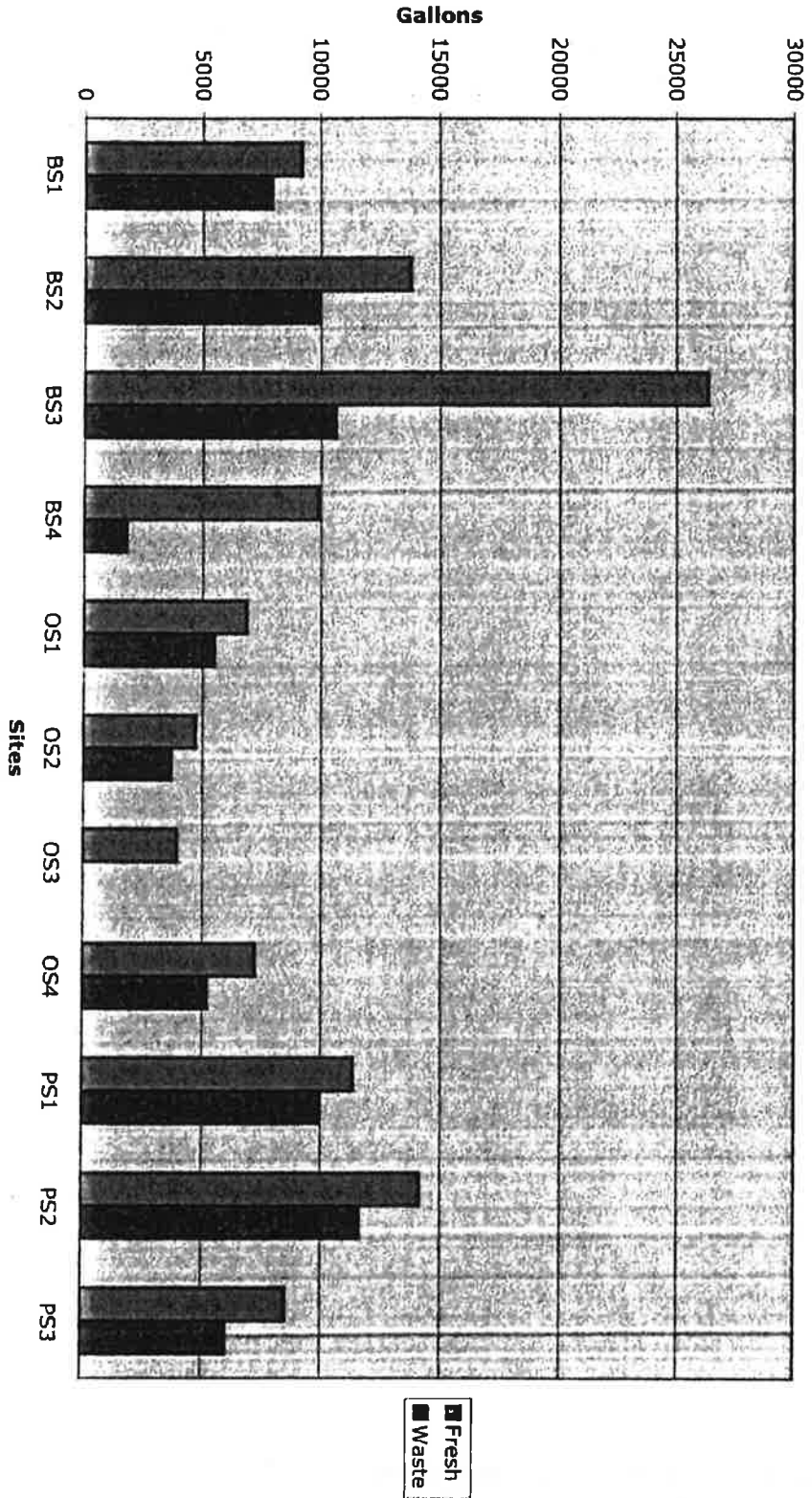
Conveyor



### In-Bay Automatics



Self-Serve





## King Klean Car Washes

King Klean North Main  
1333 North Main Street  
Salinas, CA 93906

King Klean Marina  
209 Reindollar Ave  
Marina, CA 93933

King Klean Castroville  
11797 Jackson Street  
Castroville, CA 95012

King Klean Monterey  
2236 Fremont Street  
Monterey, CA 93940  
(New owner 10-1-2014)

From the enclosed reports, we believe:

- #1 King Klean Car Washes use less water than any other type of car wash!
- #2 Washing cars in driveways is doing long term damage to Monterey Bay!
- #3 King Klean Car Washes decrease long term damage to Monterey Bay!
- #4 Monterey Bay is one of the great wonders of the world!

*We own and operate, what we consider to be, the most efficient self service car washes in Monterey County. We are not perfect and at this point in time don't recycle water. No one builds a reclaim system that works efficiently for self service car washes, at this time.*

### King Klean Contact Information:

Owner: Mike Amaya  
Cell Phone: 650-703-0899  
Email: washmycar@comcast.net



**Water Awareness Committee**  
OF MONTEREY COUNTY, INC.

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MPWMD

California-American  
Water Company

Ms. Stephanie Locke  
Monterey Peninsula Water Management District  
5 Harris Court, Building G  
Monterey, CA 93940

California Water  
Service Company

Castroville Water  
District

August 28, 2014

Marina Coast Water  
District

Dear Ms. Locke,

Monterey County  
Water Resources  
Agency

Congratulations! You've been awarded Third Place in the 10th Annual Water-Wise Landscape Design Competition, sponsored by the Water Awareness Committee of Monterey County, Inc., at the 2014 Monterey County Fair.

Monterey Regional  
Water Pollution  
Control Agency

Seaside Garden Center, at 1177 San Pablo Ave. in Seaside, CA kindly donated your award – a \$50 gift certificate.

MCSI Water  
Systems  
Management

Thank you for participating in this competition. Your garden display is a wonderful garden experience for the many fair attendees!

Monterey Peninsula  
Water Management  
District

Sincerely,

City of Soledad

Paul Lord  
Secretary / Competition Judge  
Water Awareness Committee of Monterey County, Inc.