

# PROJECT OF THE YEAR AWARDS



## 2014

NATIONAL PUBLIC WORKS WEEK  
MAY 18 - 24

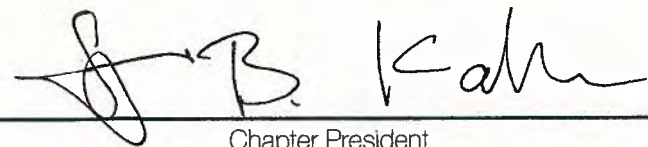


## PROJECT OF THE YEAR

ENVIRONMENT  
PROJECTS \$2-5 MILLION

PISMO HEIGHTS TANK AND  
BOOSTER STATION UPGRADE

City of Pismo Beach  
Department of Public Works

  
Chapter President

  
Awards Committee Chair

# Public Works Project of the Year Award Nomination Form

**Deadline** May 2, 2014  
(electronic submittals only)

## Project Name

## Project Completion Date

*Must be substantially completed (90%) and available for public use as of March 31, 2014.*

## Public Agency

## Project Category

- Structures
- Transportation
- Environment
- Historical Restoration/Preservation
- Disaster or Emergency Construction/Repair

## Project Division

- Less than \$5 Million
- \$5 Million, but less than \$25 Million
- \$25 Million–\$75 Million
- More than \$75 Million

## Managing Agency

Name

Title

Agency/Organization

Address (if post office box, include street address)

City State/Province Zip/Postal Code

Phone Fax

E-mail

## Primary Contractor

Name

Title

Agency/Organization

Address (if post office box, include street address)

City State/Province Zip-Postal Code

Phone Fax

E-mail

## Primary Consultant

Name

Title

Agency/Organization

Address (if post office box, include street address)

City State/Province Zip/Postal Code

Phone Fax

E-mail

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# Public Works Project of the Year Award

**Purpose** The Central Coast Chapter APWA Public Works Project of the Year Award was established to promote excellence in the management and administration of public works projects by recognizing the alliance between the managing agency, the consulting engineer/architect, and the contract who, working together, complete public works projects.

**Awards are given in four cost categories:**

1. Projects less than \$2 million
2. Projects of \$2 million, but less than \$5 million
3. Projects of \$5 million, but less than \$15 million
4. Projects more than \$15 million

**and in five divisions:**

1. Structures - to include public structures preservation/rehabilitation, municipal buildings, parks, etc.
2. Transportation - to include, roads, bridges, mass transit, etc.
3. Environment - to include treatment and recycling facilities, landfill reclamation projects, sewer projects, etc.
4. Historical Restoration/Preservation -to include historical restoration, preservation and adaptive reuse of existing buildings, structures, and facilities, etc.
5. Disaster or Emergency Construction/Repair - to include the techniques and timing for safety, community relations, environmental protection, adverse conditions and additional considerations.

**Eligibility** Public works is defined as the physical structures and facilities that are developed, owned, and maintained by public agencies to house governmental functions and provide, water, power, waste disposal, transportation, and similar public services in accordance with established public policy.

To be eligible for nomination, a project must have been "substantially completed" and available for public and/or agency use within two calendar years prior to nomination. If a project has multiple phases or segments, then "substantially completed" will be construed as that point when the final phase or segment is 90% completed and available for public and/or agency use.

A project may only be nominated once for recognition as "Project of the Year" under any category.

**Selection** Criteria to be use in the selection process include:

1. Use of good construction management techniques and complete of the project on schedule.
2. Safety performance and demonstrated awareness of the need for a good overall safety program during construction.
3. Community relations as evidenced by efforts to minimize public inconvenience due to construction, safety precautions to protect public lives and property, provision of observation areas, guided tours, or other means of improving relations between the agency and the public.
4. Demonstrated awareness for the need to protect the environment during the project. This includes any special considerations given to particular environmental concerns raised during the course of the project.
5. Unusual accomplishments under adverse conditions including, but not limited to age of conditions of the facility, adverse weather, soil or other site conditions over which there is not control.
6. Additional conditions deemed of importance to the public works agency, such as exceptional efforts to maintain quality control and, if value engineering is used, construction innovations as evidenced by time and/or money-saving techniques developed and/or successfully utilized.
7. Use of sustainable infrastructure rating system or the equivalent (such as the Envision rating system) to ensure project is sustainable.

The Project of the Year Committee reviews the nominations and selects the award winners.

**Nomination Process** Nomination of projects can be made by the managing public agency or APWA chapters.

**Deadline** May 2, 2014 (electronic submittals only)

**Presentation** A designated representative of the public agency, contractor, and consultant are presented a plaque at the Awards Recognition Ceremony at the May meeting of the Chapter on May 14th at 6 PM celebrating National Public Works Week.

# Public Works Project of the Year Award Supporting Data Form

Please address each of the following areas in your supporting documentation, adhering to the sequence below when possible.

- Completion date contained in contract. Any time extensions granted should be addressed in the submittal.
- Construction schedule, management, and control techniques used.
- Safety performance including number of lost-time injuries per 1,000 man-hours worked and overall safety program employed during the construction phase.
- Environmental considerations including special steps taken to preserve and protect the environment, endangered species, etc., during the construction phase.
- Community relations—a summary of the efforts by the agency, consultant and contractor to protect public lives and property, minimize public inconvenience and improve relations.
- Unusual accomplishments under adverse conditions, including but not limited to, adverse weather, soil or site conditions, or other occurrences over which there was no control.
- Additional considerations you would like to bring to the attention of the project review panel, such as innovations in technology and/or management applications during the project.

**NOTE:** Supporting documentation is **limited to 20 pages**, exclusive of photographs and nomination form. Photographs will be used for promotional purposes by the association. Submittal should include nomination form and supporting documentation form, and photographs.

**Nominated by:** (Can only be nominated by managing public agency or APWA chapters.) Projects that involve or reside within two or more chapters locations can be co-nominated.

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Name

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Title

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Agency/Organization

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Address (if post office box, include street address)

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City

State/Province

Zip/Postal Code

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Phone

Fax

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E-mail

## Submittal Process

email (.pdf or .jpg files only)

## Send to:

Steve@oegsite.com

## Due date: May 2, 2014 at 5:00 PM

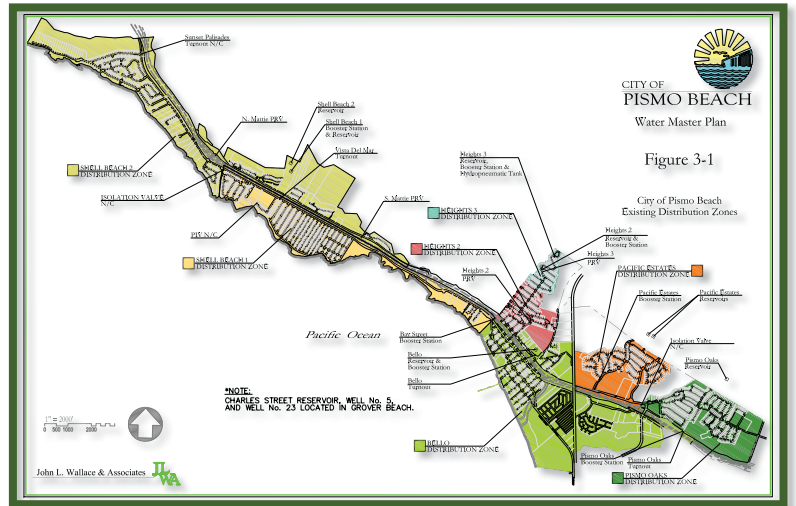
Late submittals may be considered at the discretion of the review committee.

A confirmation email will be sent when your submittal has been received within 24 hours. If you have not received confirmation, please call Steve Orosz at 805-680-1586.

# 2014 APWA Professional Awards-Central Coast Chapter

## Project of the Year: Pismo Heights Tank and Booster Station Upgrade

The City of Pismo Beach, located along the coast in San Luis Obispo County, is home to just under 7,800 persons. Throughout the year, the City receives an influx of tourists enjoying the fair weather, beautiful beaches, and thriving downtown. In May 2004, The City Council adopted the Water Master Plan, prepared by Wallace Group. The Water Master Plan evaluated the overall hydraulic condition of the water distribution system and identified deficiencies and recommended upgrades to correct the deficiencies. From this Master Plan, several projects within the Heights Distribution Zone were identified as first priority projects due to severe health and safety concerns.



City of Pismo Beach Distribution Zone Map. Heights Zones in teal and magenta.

Within the City, the hillside known as the Heights has an elevation span of over 530 feet with one road, Longview Avenue that serves as the access road to the entire hillside homes. The hillside is broken into three distinct water distribution zones: Heights 2, Heights 3 and Heights 3 Boosted. These three zones are all served by a single water main in Longview Avenue. The Water Master Plan identified significant storage, pressure, and fire flow deficiencies throughout the entire hillside. After further study, it was recommended to complete the following projects:

- Eliminate the Heights 3 Tank and Booster Station located at the top of the hill.
- Add 220,000 gallons of additional storage to the Heights 2 Tank site.
- Create a Heights 2 Boosted Zone that extends from the top of the hill down to Stratford Street.
- Construct a new booster station with variable frequency drives at the Heights 2 Tank site that is capable of sustaining pressure throughout the day to the newly expanded boosted zone as well as provide fire flow to the expanded boosted zone.
- Construct a new water main on Longview Avenue from the base of the loop at the top of the hill on Longview Avenue down to Fresno Street.

### THE PROJECT

The City of Pismo Beach hired Wallace Group to construct the new 220,000 gallon partially buried, rectangular concrete tank and booster station located on the corner of Merced and Longview Avenue. The concrete tank was to be situated between the existing 220,000 gallon tank and a two-story home. The booster station building was to be situated on the opposite side of the existing tank along Longview Avenue. Wallace Group completed the survey and right of way research, civil grading design, booster station design, utility design, and the landscape and irrigation system design. Earth Systems Pacific completed the geotechnical investigation and Smith Structural Group completed the structural design on the tank and the retaining wall. Thoma Electric completed the design of the electrical work and Rea & Luker Architects completed the architectural design of the booster station building. Under separate contract, the City hired AECOM to complete the design of the water distribution system improvements that were completed in Longview Avenue, which were constructed at the same time as the tank and booster station.

### SITE CONSTRAINTS

The Heights 2 Tank site had several design challenges, which included:

- Steep elevation changes between Merced Avenue at the top of the site and Longview Avenue to the side and bottom of the site.
- Small parcel footprint with an existing tank located in the middle.
- A two-story home located seven feet off of the property line to the east.
- A failing railroad-tie retaining wall on the south side of the property.
- Minimal operator access to the existing tank and booster station.
- The southern portion of the site was the neighbor's driveway.
- Minimal vehicle site distance along the west side of the parcel where the booster station was to be located.
- The existing tank and booster station were required to stay operational throughout construction, thus all piping and the existing booster station had to remain intact, which limited the area for new infrastructure.



The design included a booster station building with four jockey pumps on variable frequency drives that would provide continuous flow and pressure to the expanded boosted zone and two fire pumps that would each provide 1,500 gpm of flow required by the fire department. The booster station now served over 250 homes on the hillside with continuous pressure. The tank was a 43 ft X 68 ft partially buried, rectangular, cast-in-place concrete tank. The project design also included new drainage facilities around the site and re-compaction of the roadway on Longview Avenue to the west of the site at the bend where the road was failing, a new retaining wall for the two adjacent property owners, a permanent standby generator, two driveways for operators to park while working at the site, and all new landscaping around the entire site. The City put the project out to bid in late 2011 and the contract was awarded to RSH Construction out of Hemet, California with Notice to Proceed February 2012. Construction was completed in July 2013.

### CONSTRUCTION

The City hired a contract construction manager to oversee the daily construction activities, review the submittals, request for information and clarifications, and maintain daily logs. The City held weekly meetings with the contractor throughout the duration of the project. The contractor tracked the submittals and construction schedule in the construction management program Primavera. Wallace Group was on call to provide engineering support to the construction manager and the contractor to review specialty submittals and answer questions. The contractor provided updated schedules and provided their strategy to meet one of the most challenging requirements of this project, which was to maintain continuous water service to the customers. After further collaboration with the City and Wallace Group, a strategy to work around the existing booster station and piping, while constructing the new tank and booster station was determined to be the optimal solution in lieu of constructing a temporary booster station.



The project, which included the construction of the tank and booster station with one-mile of piping upgrades in Longview Avenue was scheduled to be completed within one year. The contract was extended due to the inability to get the fire pumps and other equipment onsite to meet the tight schedule. The adjacent neighbors allowed the contractor to stage their construction trailer and obtain full access to the construction site via their second driveway.

### SAFETY



With the narrow roads, small working site, tight working conditions, and the public driving and walking in and around the project, safety on the job site was a high priority for the City and the contractor. Safety and working conditions were reviewed during the weekly meetings between the City and the contractor. In addition, the contractor held daily meetings with the crew to discuss the project conditions to ensure that the crew and the public's safety were met. In addition, the contractor had a safety officer who

conducted random job inspections and completed audits to ensure the construction crew was meeting all internal safety requirements as well as OSHA requirements. There were no safety violations or accidents on this project.

### ENVIRONMENTAL

The project was constructed on a site that was already disturbed with no endangered species or flowers. Thus, there were no environmental constraints on the project. The City did complete their CEQA requirements and issued a Negative Declaration. It was the City's desire to provide a project site that enhanced the beauty of the neighborhood and did not impact the view shed of the hillside. As part of the project, all new low water use landscaping was provided and the overhead utility lines that crossed the south side of the property were removed.

### PUBLIC OUTREACH

Since the project impacted the entire hillside community for over a year, public outreach and communication was a high priority. The City wrote a community relations plan, held two town hall meetings, walked the community talking to neighbors and passed out door hangers to ensure the community was well informed about the progress of the project and to ensure that their concerns were heard. The City kept weekly logs of any complaints from the residents and responded quickly to the community.



### ACCOMPLISHMENTS

The Heights 2 Tank site, was originally planned in the 1950's to have an additional tank that mirrored the existing tank on the site as was constructed; however, the planners in the 1950's did not anticipate a two-story home sitting adjacent to the property. Constructing the new tank in between the existing tank and the two-story home, while protecting both from sustaining damage while driving in the shoring and excavating out over 25 feet of soil took finesse, collaboration, and solid engineering on both the design team and the contractor. The design for this facility not only increased storage to the hillside community, which was needed, the booster station increased pressures and fire flow capabilities throughout the entire Heights. In some parts of the Heights Distribution Zone, the fire flow capabilities were only 250 gpm. The entire hillside is now a minimum of 1,500 gpm, thus allowing fire fighters to adequately protect the homes. With the booster station on variable frequency drives, the boosted zone sees little fluctuation in their system pressures throughout the day.



The tank and the booster station were the driving design factors that were a success for the City. However, through innovative design and coordination with the contractor and the City, this project also fixed an important constraint to the project site. The old site had limited operator access to attend to the existing tank and booster station. The operator's vehicles would be parked in the neighbor's driveway or would be parked in a parking stall where their vehicle to extend into the street. The new site layout provides for two full parking stalls for the operators.



#### ADDITIONAL CONSIDERATIONS

Innovative construction staging and strategic phasing were hallmarks of this endeavor. The complexity of eliminating old, creating new and extending pressure zones was a challenge. All coordinated and accomplished while continuing to maintain water service to all of the homes. The contractor had to understand how the complex water distribution system operated, collaborate with Wallace Group and the City and provide detailed sequencing operations to ensure that no customers were without water for more than a few hours.

All in all, the project was a huge success. The Heights Distribution Zone now meets all pressure and fire flow requirements.



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Project of the Year: Pismo Heights Tank and Booster Station Upgrade

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Pismo Heights Site Pre-construction

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Pismo Heights-Before: Front of Tank and Booster Station, looking north. Operator's parking stall in front.

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Pismo Heights-Before: Neighbor's driveway and failing railroad retaining wall.

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Pismo Heights-During Construction: Start of excavation for the tank. Drilling for install the pilings for the shoring. At ground level with the two-story house.

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Pismo Heights-During Construction: Excavating down over 30 feet. The two-story house in the background, 30-feet above the floor level of the tank.

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Pismo Heights-During Construction: Construction of the new booster station building. Note the existing booster station building still sitting on its foundation with the ground graded out around it.

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Pismo Heights-Finished construction: Front of the site was lowered 4 to 9 feet. Both tanks were painted and guard rail installed at the top of the tank. The generator is located at the back of the property behind the wrought iron fence.



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Pismo Heights-Finished Construction: Front face of the old tank and the access door to the booster station building.

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Pismo Heights-Finished Construction: Side view of the new booster station building with the second driveway and the two hydro-pneumatic tanks to assist with stabilizing system pressures and water hammer.

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Pismo Heights-Finished Construction: Looking from the corner of Merced Street. The west portion of Longview Avenue on the right side of the picture was excavated down 9 feet and then re-compacted and then paved.

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Pismo Heights-Main Control Room: The six pumps and control panels with the roll up door in the background.

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Pismo Heights-Main Control Room: The fire pump in the fore ground.

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Pismo Heights-Main Control Room: The pump control panels.

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Pismo Heights-Main Control Room: The internal controls.

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Pismo Heights 2, post construction.