CITY OF CARMEL-BY-THE-SEA

DEPARTMENT OF COMMUNITY PLANNING AND BUILDING

STAFF REPORT

TO: MAYOR MCCLOUD AND MEMBERS OF THE CITY COUNCIL

FROM: SEAN CONROY, PLNG & BLDG SERVICES MANAGER

THROUGH: JASON STILWELL, CITY ADMINISTRATOR

DATE: 1 NOVEMBER 2011

SUBJECT: RECEIVE A REPORT AND PROVIDE POLICY DIRECTION ON WATER CONSERVATION EFFORTS.

BACKGROUND

California American Water (Cal-Am) is the primary purveyor of water for the Monterey Peninsula. The majority of the water used by Cal-Am comes from either the Carmel River or the Seaside Basin. In 1995, the State Water Resources Control Board (SWRCB) ruled that Cal-Am did not have valid permits for the majority of the water it was pumping from the Carmel River. Order 95-10 was adopted limiting the amount of water that could be pumped as well as requiring Cal-Am to develop a replacement water source by December 31, 2016. Without a new source of water there would be a serious water shortage with reductions in the water supply of about 70%.

It is important to note that peninsula residents average approximately 70 gallons of water use per day, which is roughly half of the state average. Some areas of the state average over 200 gallons per day. Despite the exemplary record on water conservation efforts on the peninsula, in October, 2009 the SWRCB issued a Cease and Desist Order requiring that Cal-Am cease its unauthorized diversions by December 31, 2016.

With the unresolved issues related to finding a regional water solution, it is important that the City of Carmel-by-the-Sea be proactive in determining how to prepare for a restricted water supply in the future. In fact, on May 1, 2011 the Mayor submitted a memo (see attached) to the City Council advocating among other things, review of existing city practices and polices what would promote water conservation. As a follow up to that memo, staff has proposed a draft work plan to the Council that will focus on conservation efforts which can be undertaken by the City.

The purpose of this staff report is to present a draft work plan to the Council with a request for direction. The plan is shown in bold below followed by comments on the various aspects of the plan.

DRAFT WATER CONSERVATION WORK PLAN

An important element of any Water Conservation Plan is for the City to review its facilities and operations to make certain that proper steps have been and are being taken to install devices and promote operations that will conserve water. To this end, elements of a water conservation work plan should include the following elements.

A. City Facilities & Operations:

1. **Evaluate current irrigation practices to determine if water saving opportunities exist.**
2. **Evaluate City landscaped areas to determine if more drought tolerant plantings or alternative materials would be appropriate.**
3. **Perform an audit of City buildings and facilities to determine if retrofitting existing fixtures would be appropriate.**

Comment: It should be noted that the City has been very proactive in retrofitting City facilities. The City has installed low flow toilets in almost all City facilities. The Building Maintenance department is vigilant in searching for leaks, and responds quickly to any identified problem. The possibility of waterless urinals should also be explored.

Regarding Devendorf Park, the only turf area maintained by the City, the possibility of installing artificial turf or other water use reduction options should be explored. While the existing lawn adds charm and beauty to the park, with a 70% reduction in the water supply, other options may be preferable to a small brown field.

With the exception of Devendorf Park, all city facilities with landscape irrigation utilize drought tolerant plant materials. Irrigation practices on City sites use low volume application materials and methods to maximize the value of the applied water and to minimize any waste on any given site. New technologies are constantly being developed and should be evaluated as to their possible merits to further reduce water use on city properties without sacrificing the needs of the plants. In some instances low technology practices will reduce overall water use such as removing planted areas, shutting off the irrigation, and covering the area with a thick mulch layer.

All city irrigation sites are undergoing irrigation audits by Cal Am to ensure the areas are correctly irrigated and billed properly for the water use.

B. Maintain Fire Readiness

1. **Maintain fire hydrants.**
2. **Monitor and clear heavy vegetation (fuel loads)**
3. **Maintain fire fighting staff and adequate apparatus and equipment.**
4. **Continue building and fire code compliance programs.**

Comment: One of the concerns with having an adequate water supply is maintaining fire readiness. With a limited water supply, continual efforts must be maintained to ensure that available water supply can be efficiently and effectively used in order to suppress fires. The basic fire delivery infrastructure must be adequately maintained.

The Carmel-by-the-Sea Fire Department is prepared and capable of responding to the many significant fire hazards to which the City is exposed. The City is built on an uphill slope under a canopy of trees and is surrounded by heavy vegetation (fuel loads) in Pescadero Canyon, Mission Trail Nature Preserve and Rio Park. It also has a dense commercial district that drives the City's economic engine comprised of existing non-conforming aging commercial structures and older wooden residential structures built closely together with considerable access challenges.

Thanks to the leadership and support of the City Council, Carmel-by-the-Sea maintains a high state of operational readiness with highly trained personnel staffing a three-person engine and two-person ambulance 24/7 with modern state of the art facilities, fire apparatus and equipment. The City also has aggressive building and fire code compliance programs and conducts annual fuel reduction and weed abatement surveys.

Furthermore, in 2008 Cal-Am, working in conjunction with the City, completed a major $1 million capital investment in upgraded water mains and installation of numerous new fire hydrants. The project involved digging up and replacing 5,680 feet of severely corroded water-mains that were originally installed in the 1930s. It should be further noted that the City's original planners did an excellent job pre-planning the community's fire protection needs by placing fire hydrants on nearly every corner throughout the City. This preplanning has provided the City with an efficient, City-wide fire flow distribution system.

C. Identify Potential Sources for Additional Water

1. **Evaluate the potential of using recycled water from the Carmel Area Waste Water District (CAWD).**
2. **Explore opportunities to better utilize the spring water at Del Mar.**
3. **Support regional efforts to develop water development contingency plans.**

Comment: One potential option for improving water conservation would be to construct capital projects which would eliminate existing needs for potable water. For example,

along Fourth Avenue the City is still using potable water for the landscape along this walkway/storm drain project. Contact has been made with the Carmel Area Wastewater District (District), Pebble Beach Community Services District (CSD), and the Pebble Beach Company (Company) to discuss the possibility of replacing potable water with recycled water for this project.

By way of background these agencies along with the Monterey Peninsula Water Management District worked together to construct a plant immediately south of Carmel to produce recycled water to be distributed for irrigating golf courses and other recreational areas within Pebble Beach. The distribution line of this recycled water runs through Carmel-by-the-Sea through Rio Park and along Carmelo Avenue to Pebble Beach. When this project was approved in 1992 the City approved a Use Permit authorizing the District and the CSD to use the City right-of-way for the pipeline. A condition of the Permit required *"That a turnout shall be installed…in order to provide for future irrigation demands of up to five acre-feet (of water) per year for Rio Park."*

A meeting was held with representatives of the City, the District, CSD and the Company to discuss the potential of diverting 1/3 acre feet of recycled water from the 5-acre feet required for Rio Park to the 4th Avenue project. There was general agreement that this was a reasonable request. In order to accomplish the use of the recycled water for 4th Avenue, the following steps were identified:

1. A permit would be required from the Regional Water Quality Control Board (San Luis Obispo). Since CSD is applying for a master permit for this area, it would be logical to await the approval of this permit which is already being processed which would cover the Carmel project.

2. The connection from the pipeline to the 4th Avenue project would need to be engineered. Subject to further analysis, this appears to be a simple connection since there is already a relief valve on Carmelo at 4th Avenue. The City would pay for this connection as part of the 4th Ave. project.

3. The Company will review the existing recycled water sales contracts between MPWMD and the golf courses to ensure that entering into a recycled water sales contract with the City is permissible under the existing contracts and would not create any undesirable "precedent" regarding the sale of recycled water to entities other than the current golf course users.

4. Assuming the issues identified in #3 can be satisfactorily resolved (which the Company believed to be the case), the City would enter into a contract with MPWMD or the District to buy the water. It would be at the same price as

currently paid by others purchasing recycled water, which is currently the same as the price for potable water. For a small project like 4th Avenue a rough estimate of cost is $700 annually.

This process would take several months to accomplish but would be beneficial not only to replace potable water with recycled water, but to eliminate the temporary "construction connection" for the current potable water supply.

The City should also explore opportunities to better utilize the spring at Del Mar for landscape watering. The City Council has awarded a contract to replace one working 10,000 gallon tank with a 25,000 gallon tank to collect this non-potable spring water. This new tank will have connections which will enable the City to extend the use of this water along the bluffs as well as other landscaping in other nearby areas. The City also has a well and 10,000 gallon water storage tank in the Mission Trail Nature Preserve that is rarely used at the current time. This can be an alternate water source for firefighting needs in the Preserve or other possible needs.

Finally, the City should continue to participate in regional discussions regarding the development of water contingency plans and in determining the most productive and cost effect approach of supplying a long-term water supply to the Peninsula.

D. City Ordinances:

1. Review City ordinances related to water conservation and landscaping to determine if additional best management practices should be considered.

Comment: Besides the facilities and operations under the City's direct control, the City can influence the water conservation on private property as well. In fact, the City has been proactive in adopting a landscape ordinance and a water conservation ordinance.

Below is a summary of some of the City's existing water conservation measures. As technology continues to develop, new opportunities will continue to arise that allow for more efficient use of water. Rain harvesting systems and gray water systems, for example, are likely to become more common in the future. The City should work to identify those systems that are most compatible with community character and promote these systems to City residents.

Landscape Ordinance – CMC 17.34

- Requires 75% of landscaping to be drought tolerant.
- Landscaping plans for projects in any zoning district shall, where feasible, require the use of water retention storage devices such as cisterns or underground bladders to capture precipitation or surface runoff for landscape maintenance purposes or

detention basins or berms to retain water on-site for natural percolation into the soil.

- Irrigation systems shall be designed to minimize the use of water. Landscaping irrigation systems for projects in any zoning district shall use low-output sprinkler heads and/or drip irrigation.

Water Conservation – CMC 17.50

- Uniform Standards for Plumbing Fixtures. The use of water-conserving plumbing fixtures shall be required for all new construction. All existing plumbing fixtures within any building that do not comply with the adopted standards for water conservation shall be replaced with complying fixtures upon issuance of any building permit authorizing substantial construction.

E. Public Outreach:

1. **Review and continue to determine the potential impact of water rationing on residents and business owners.**
2. **Provide information to the public on appropriate Best Management Practices.**
3. **Encourage businesses, particularly inns to retrofit old plumbing fixtures to reduce water consumption to the extent possible.**
4. **Develop statements on the City's web page with water conservation messages.**

Comment: The City can conserve water in its facilities and through its operations. It can make certain that its ordinances include the most up-to-date water conservation provisions. But crucial to any water conservation plan is public outreach. The City should take on an active role in communicating to its residents, business owners and other stakeholders the need to be proactive in water conservation efforts and to work collaboratively to prepare for the future. The City may want to consider using its marketing consultant to assist in developing a community awareness campaign.

SUMMARY

It should be emphasized that this is a Draft Water Conservation Work Plan. It is designed to be expanded and revised as new thoughts and programs are developed. As a summary, the current Draft Plan contains the following elements as a foundation for a future Water Conservation Plan:

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It likely would be useful if the City creates a working group to follow through on this draft work plan and revise it as necessary. This working group could consist of members of City staff, like the Building Maintenance Manager, Planning and Building Services Manager, and City Forester, representatives of the Water Management District and the wastewater districts, and members of the City's Green Building Committee. Creation of a working group and its composition should be evaluated by the City Administrator.

RECOMMENDATION

It is recommended that the Draft Water Conservation Plan be approved and referred to the City Administrator for further refinement and development.