Conejo Recreation & Park District

DATE: March 6, 2014

TO: Board of Directors

FROM: Jim Friedl, General Manager

SUBJECT: Conejo Recreation and Parks District's Water Conservation Policy and Practices

RECOMMENDATION

Receive and file report on the District's Water Conservation Policy and Practices.

DISCUSSION

Since the passage of the Water Conservation Act of 2009 by California's legislature, the District has been working to reduce its water consumption by 20% by the year 2020.

Using water consumption data from FY 2007/2008 (first year comprehensive data is available) as a benchmark, and employing water usage units per developed acre as the measurement criteria, the District increased its water use by 4.97% at the end of FY 2012/2013.

Although staff believes the 4.97% increase at the end of FY 2012/2013, as compared to the FY 2007/2008 benchmark[1], was due mainly to low rainfall (record low in Calendar Year 2013 and furthermore, of the warmest ten years on record for the area, nine have been since 2001) and low number of rain events, staff continues to make further efforts to aggressively undertake additional water saving actions.

The attached Water Conservation Policy briefly describes the District's goals, current practices, objectives, and challenges that lay ahead in attempting to further reduce water consumption.

The policy will be updated on an annual basis.

[1]For further comparison, as detailed in Table 1 of the Water Conservation Policy, comparing each FY to the FY 2007/2008 benchmark, water use had decreased 3.37% in FY 2008/2009, 17.31% in FY 2009/2010, and 15.39% in FY 2010/2011; increased 2.56% in 2011/2012.

Efforts to Conserve

Turf Conversion

In addition to irrigation adjustments and turf conversions in recognizable non-essential areas, Parks and Planning staff implemented a program in 2012/2013 to convert turf areas into a non-grass landscape material and/or native landscaping. Approximately 30 acres (approximately 5.3% of overall current turf) of turf conversion is planned for these projects. To date the irrigation has been shut off on all 30 acres, however, conversion to drought tolerant plants, chips or bare soil will take about 2 years to complete. Efforts so far have been mostly through the combination of in-house and volunteer staff.

Additionally, as part of the turf conversions, the District received a $50,000 grant ($25,000 at each site) from California America Water to convert .68 acres at Wildflower Playfield and .93 acres at Dos Vientos Community Park; both of these sites were completed through in-house and contracted staff.

WILDFLOWER PLAYFIELDS WORK DURING CONVERSION

DOS VIENTOS COMMUNITY PARK WORK DURING CONVERSION

Staff plans on converting the balance to the 30 acres of turf by 2016; additionally, staff will continue to investigate grant opportunities through water suppliers and the state of California to assist in the completion of the conversions.

DRIP Implementation

In July 2013, the District implemented the Do Report Irrigation Problems (DRIP) water watcher program (visit www.crpd.org/DRIP). The DRIP program provides visitors an easy way to relay irrigation concerns and problems to the District to help conservation efforts.

Study to Determine Feasibility of Using/Re-using Local Water Supplies (Conejo Valley Groundwater and Reclaimed Water Study)

Current potable water supply within the District is essentially 100 percent imported water delivered by wholesale agency Calleguas MWD. There are three water purveyors serving Thousand Oaks: the City, California American Water Company, and California Water Service Company. Reclaimed water use is limited to the east end of the City through infrastructure owned by the Las Virgenes MWD/Triunfo Sanitation District JPA and the Calleguas MWD. Tertiary effluent from the City's Hill Canyon Wastewater Treatment Plant is fully re-used downstream by the Camrosa Water District. Current total water use within the City limits is about 45,000 acre-feet per year (the District uses approximately 656 acre-feet per year), including potable, irrigation and reclaimed water demands.

In November, 2013, the City of Thousand Oaks commenced a process to select a consultant to evaluate the feasibility of developing local sources of water supply that will reduce the City's reliance on imported water.

The consultant will be working with the City to identify and evaluate the feasibility of developing local water supply options, which may include utilizing groundwater within the Conejo Valley, reclaimed water, storm water capture/recharge, and larger industrial dischargers. Existing and historical groundwater data will need to be reviewed. Costs and feasibility of treatment options may be evaluated, including desalting groundwater for non-potable and/or potable use. A market study to identify non-potable water users may be conducted. Impacts of concentrate (brine) discharge to the City's existing wastewater system on treatment plant operations and salts TMDL limits in Conejo Creek will need to be analyzed. Institutional issues must be considered as to groundwater basin management, permitting, joint agency projects, and effect of use of local supplies on downstream reclaimed water users and water rights.

Since the Conejo Recreation and Park District owns significant acreage over potential groundwater sources and has significant water use requirements, the City expects to consult with the District as well as the Conejo Valley Unified School District, California American Water Company, California Water Service Company and Calleguas Municipal Water District as potential stakeholders as part of the study.

Drought Conditions

Record dry weather in recent months, coupled with little water from Northern California - major reservoirs in the north are far below their normal levels for this time of year, and Southern California's other major source of imported water — the Colorado River — is in the midst of its longest dry cycle in recorded history, brings us closer to our first-ever supply restrictions.

As of February 27, 2014, the District has experienced 1.85 inches of rainfall since July 1, 2013, as compared to 3.91 inches last year and the historical average of 11.42 inches during that same time period.

Even with the drought conditions, the District has made every effort to conserve; as of January 1, 2014, the District has used 362 units (748 gallons per unit) of water per acre as compared to 405 units per acre last year at this time.

Financially, the District, as of January 1, 2014, has expended approximately $1,195,000 (as compared to $1,161,000 from last year at this time) of the budgeted $1,608,000 since July 1, 2013. At this rate, without significant rainfall, the District is projected to spend approximately $1,750,000 on water by June 30, 2014. Despite our significant conversion efforts, this is $142,000 over budget. Of course, should we experience a “Miracle March” or other significant rainfall, the District will be able to turn off irrigation and spend less on water.

Current California Governor Jerry Brown took an important step in January 2014, declaring a drought and asking all Californians to cut their water usage by 20%.

There are no easy options to meet the Governor’s request; the District already limits irrigation of park landscaping so that the health of the grass and landscaping is near failure level. Irrigating at the bare minimum, coupled with a further reduction, would result in significant turf damage and lead to a difficult recovery. Thus, although staff is making efforts to balance aggressive water conservation efforts with turf quality and playability, the recent and continuing drought conditions make it prudent for staff to consider alternative, more drastic, conservation plans.

Alternative Conservation Efforts (see attached summary table)

Cease Irrigation at Neighborhood Parks

Neighborhood Parks serve immediate neighborhoods and are not used for permitted groups. These parks constitute approximately 39% of our developed acreage and approximately 41% of our water use.

It is estimated that by ceasing irrigation at these locations the District will reduce usage by 41% of our annual water use or 88,000,000 gallons of water ($700,000).

Once irrigation ceases for any significant length of time, there will still be some growth as many native and non-native weed species are able to survive without supplemental irrigation.

Mowing, and other maintenance activities would still need to occur, leaving a mottled condition in the park. In the future, if water were to become available for the recovery of these parks, the refurbishment would be time consuming and expensive. Staff estimates the recovery of an 'extreme' refurbishment to be approximately $10,000 per acre in materials, supplies, staff time and increased water for establishment. The total cost of refurbishment for all Neighborhood Parks (111 acres) is estimated to be $1,110,000.

Skip Annual Turf Refurbishments

District annual refurbishment of sport fields involve grading, aerating, seeding and topdressing, sod placement, then approximately 4-6 weeks of double watering. This increase in irrigation is to establish the grass seed/sod. Elimination of one year of refurbishments districtwide would save approximately 15% of our annual water use or 33,000,000 gallons of water.

Elimination of refurbishments would annually save approximately 15% of water costs ($255,000) and approximately $3,000 per acre ($218,000) in materials and supplies; for a total cost of approximately $473,000 annually.

The District has made a significant multi-year investment in annual refurbishments, keeping the fields playable and safe for permitted groups. As stated previously, the turf is irrigated at a near failure rate; and in combination with the high use of the fields - compacting the soil, creating ruts, and wearing the turf to bare dirt – annual refurbishments are necessary for recovery.

If one cycle of annual refurbishments did not occur, the fields would decline further - soils would be even more compacted, uneven ground would be more pronounced – thus increasing issues in future turf recovery. Staff estimates costs would increase 50% - $4,500 per acre in materials, supplies, staff time and increased water for establishment ($709,500).

Reduction and/or Elimination of Permitted Use

Reduction and/or elimination of permitted use, including large scale events such as the Chili Cook Off, Conejo Valley Days, etc…, as well as sports groups usage, would slightly minimize the need for turf recovery and refurbishment. Staff estimates an overall reduction of 5% of annual total refurbishment costs and usage could be achieved (.75% overall of districtwide annual water usage - 1,650,000 gallons and $12,750; and $10,900 for materials and supplies; for a total of $23,650). However, reduction and/or elimination of permitted use would have to be carefully discussed and coordinated with the needs of the community.

Installation of Synthetic Turf

Replacing existing turf with synthetic turf would provide increased permitted time availability and a consistent playing field. Additionally, it is estimated water usage would be reduced by 80% for each field – synthetic turf still requires watering for cooling and cleaning.

The District has 23 field candidates for synthetic turf; the average field being about 1.5 acres. The initial cost of construction is approximately $1 million per field; overall reduction of .51% of

annual water use districtwide or 1,090,000 gallons per year per field ($8,670 per year per field). Additional maintenance activities, including weekly brushing/fluffing, costs would be offset by current maintenance costs.

Industry information represents resurfacing of the synthetic turf occurs approximately every ten years (however, for example, Thousand Oaks High School's field lasted six years with significantly less activity than District fields) and costs approximately 50% of original installation cost.

All Is Not Lost Yet

Jeffrey Kightlinger, general manager of the Metropolitan Water District of Southern California, believes, as quoted from an opinion article in the January 23, 2014 Los Angeles Times, "the region has done two major things right since the dry cycles of the 1970s and early 1990s. First, Southern Californians have embraced conservation and dramatically lowered their water consumption, installing millions of low-flow toilets, shower heads and other appliances. Second, the region has developed new reservoirs and groundwater banks in the Southland and the San Joaquin Valley to store water in good times for use in bad."

Southern California has learned from previous droughts; along with the above achievements, individual resident and business water conservation efforts, plumbing codes, and investments in conservation and supply management, have led to a more healthy water reserve. Kightlinger believes the situation is not yet dire, and it doesn't need to be if we are careful.

CONCLUSION

Staff believes at this time no further actions should be taken to implement any of the alternative, more drastic, conservation plans. However, the District and the rest of Southern California are far from immune from this and future droughts and we must continue to treat every drop of water as precious.

STRATEGIC PLAN COMPLIANCE

Meets 2013 Strategic Plan Element 6.9: Evaluate enhanced recycling and energy conservation practices. Evaluate and enhance our recycling and energy conservation practices within the District and at District properties and events to assure that we continuously improve the District's recycling, energy conservation, resource utilization and related practices.

Respectfully submitted by,

T. P. Hare
Administrator, Parks and Planning
Attachments

Alternative Conservation Efforts

Summary Table

Alternative	Estimated Annual Districtwide Water Usage Reduction	Estimated Annual Water Cost Savings	Estimated Additional Annual Savings	Estimated Recovery Cost	Estimated Total Recovery Cost	Estimated Construction Cost
Cease irrigation at neighborhood parks	41% --or-- 88,000,000 gallons	$700,000	None	$10,000 per acre	$1,100,000	None
Skip annual turf refurbishments	15% --or-- 33,000,000 gallons	$255,000	$3,000 per acre --or-- $218,000	$4,500 per acre	$709,500	None
Reduction and/or elimination of permitted use	.75% --or-- 1,650,000 gallons	$12,750	$150 per acre --or-- $10,900	None	None	None
Installation of synthetic turf	.51% per field --or-- 1,090,000 gallons	$8,670 per field	None	None	None	$1,000,000 per field